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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 1, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.15	765.7	67.1	19.5	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.02	762.6	82.0	27.8	66	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.94	760.4	77.7	25.4	60	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourilière.
La Calle	.....	.....	29.97	761.2	81.9	27.7	67	NNE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.08	764.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.4	91.4	33.0	13	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	29.97	761.1	97.7	36.5	17	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.04	763.0	88.5	31.4	41	SE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	29.98	761.4	95.4	35.2	28	NW	.....	.....	7	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	29.90	759.5	103.1	39.5	40	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.43	747.5	29.95	760.7	82.2	27.9	58	E	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.26	743.3	30.00	762.1	74.1	23.4	53	E	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. Wierzbiski.
Eperies	29.15	740.3	29.99	761.8	72.3	21.4	65	N	.....	.....	2	.....	1cs	.....	S	0.315	8 00	.....	Julius Mikolik.
Gratz	28.77	730.7	29.97	761.2	73.8	23.2	66	SSE	.....	.....	2	.....	3	.....	.....	0.445	11.3	.....	Andreas Rospini.
Hermannstadt	28.55	725.2	29.87	758.8	89.8	32.1	38	W	.....	.....	1	.....	5	.....	.....	0.008	0.2	.....	Prof. A. Gottschling.
Kremsmünster	28.53	724.6	29.80	756 8	77.5	25.3	73	ENE	.....	.....	4	.....	1	.....	.....	0.146	3.7	.....	Prof. C. Wagner.
Lemberg	29.02	737.1	29.98	761.4	69.1	20.6	51	NE	.....	.....	1	.....	6	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.80	757.0	29.91	759.8	88.9	31.6	85	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.56	750.9	30.01	762.2	75.9	24.4	67	NW	.....	.....	2	.....	2	.....	.....	0.528	13.4	.....	Julius Csics, S. J.
Szegedin	29.68	753.9	29.95	760.6	79.2	26.2	67	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.81	757.1	29.91	759.7	86.0	30.0	70	E	.....	.....	1	.....	1	.....	.....	Inap.	Inap.	.....	P. Busin.
Vienna	29.26	743.2	30.00	762.0	74.1	23.4	58	ESE	.....	.....	2	.....	5	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Upper. 0–10.	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.17	740.9	29.27	743.4	49.4	9.7	.....	ESE	31	13.9	.....	.....	10	.....	.....	0.470	11.94	Raining	W. Boswell.
Ardrossan	29.02	737.1	29.03	737.3	57	13.9	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm.McNeil &G.Carrick
Armagh, Observatory	28.74	730.0	28.98	735.6	56.2	13.4	.....	SSE	8	3.6	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.16	740.7	58.0	14.4	.....	SW	29	13.0	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.15	740.4	57.9	14.4	.....	SW	24	10.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	28.78	731.0	29.18	741.1	55.8	13.2	.....	SW	.....	.....	5	.....	10	.....	.....	0.79	20.1	Overcast.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	81	27.2	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.26	743.2	29.35	745.5	58.0	14.4	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.28	743.7	60.0	15.6	.....	S	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	John McLaren.
Chatham, School M. E.	29.26	744.0	29.42	747.3	57.5	14.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	J. Carmell, Sapper, R. E.
Donaghadee	28.94	735.1	28.98	736.1	57	13.9	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	J. Mac Gowan.
Dover	29.46	748.3	29.47	748.5	58	14.4	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	J. Costello.
Falmouth, Observatory	29.22	742.2	29.44	747.8	57.3	14.1	.....	WSW	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	27.40	696.0	29.68	753.9	70.0	21.1	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	755.1	29.96	761.0	82	27.8	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.13	739.9	54	12.2	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.98	761.5	77.6	25.3	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	26.86	733.5	29.08	738.6	53.2	11.8	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean. [C.
Great Yarmouth	29.44	747.8	29.45	748.0	59	15.0	.....	S	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.22	742.2	29.39	746.5	58.2	14.6	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.27	743.4	29.48	748.8	59	15.0	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.40	746.7	29.52	749.8	62	16.7	.....	SW	.....	.....	2	.....	3ck	.....	.....	1.41	35.8	Showery.....	M. P. Moyle.
Holyhead	29.13	739.9	29.14	740.1	57	13.9	.....	SSW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.24	742.7	29.53	750.0	57.3	14.1	.....	W	.....	.....	6	.....	9	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	29.34	745.2	29.37	746.0	59.0	15.0	.....	S	27	12.1	.....	.....	10	.....	.....	.....	.....	Drizzling.....	The Met'g'l Office.
Leicester, Museum	29.00	736.6	29.25	742.9	59.2	15.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	82	27.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.14	740.1	29.23	742.4	52	11.1	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.05	763.3	83.0	28.3	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.07	738.4	29.25	742.9	61.8	16.6	.....	SSW	.....	.....	5	.....	9k;d	.....	SSW	0.527	13.39	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.73	729.7	29.23	742.4	61.9	16.6	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.26	743.2	57	13.8	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.34	745.2	29.41	747.0	59.8	15.4	.....	SW	.....	.....	2	.....	8	.....	.....	Blank	Blank	D. clouds.....	John Merrifield.
Prince Town	27.98	710.7	29.43	747.5	51.6	10.9	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy.....	W. H. Tooker.
*Roche's Point	29.24	742.7	29.34	745.2	56	13.3	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.13	739.9	29.29	744.0	55	12.8	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	Squally.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.44	747.8	53.7	12.1	.....	E	23	10.5	.....	.....	10	.....	.....	.....	.....	Raining	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.88	757.7	29.90	759.4	85.2	29.6	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	28.96	735.6	29.23	742.4	60.4	15.8	.....	SSW	.....	.....	3	.....	7	.....	.....	0.25	6.3	Threatening	W. F. Cooper.
Silloth Rectory	29.07	738.4	29.10	739.1	57.0	13.9	87	W	.....	.....	4	.....	9	.....	.....	0.175	4.45	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.26	743.2	57.0	13.9	.....	SSW	19	8.5	.....	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.16	740.7	29.37	746.0	59.8	15.4	.....	SW	.....	.....	2-3	.....	9	.....	.....	.....	.....	Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.44	747.8	29.45	748.0	61	16.1	.....	SW	.....	.....	7	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	29.34	745.2	29.37	746.0	56.1	13.4	.....	WNW	27	12.1	.....	.....	10	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.13	765.3	30.17	766.3	54.6	12.6	63	W	6	2.7	.....	2	13	.....	.....	0.470	11.94	Rainy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.12	765.0	38	3.3	85	NW	.....	.....	3	0	0	.....	.....	0.01	0.3	Clear..	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.15	740.4	54.0	12.2	.....	E	.....	.....	2	.....	10n	.....	.....	0.42	10.7	Overcast.....	Andrew Gibb
Mauritius, Observatory	29.91	759.7	30.10	764.5	72.4	22.4	71	SSE	8.0	3.6	.....	0	6	.....	SW	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	30.16	766.0	30.25	768.3	40.8	4.9	92	NE	7	3.1	.....	.....	0	.....	.....	0	0	Foggy.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.29	744.0	54	12.2	.....	NE	.....	.....	4	.....	10	.....	.....	0.2	5.	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.47	748.5	54	12.2	.....	E	.....	.....	8	5	5	E	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Upper. 0–10.	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25'. E. 29° 00'	.....	.....	29.94‡	760.5‡	72.2	22.3	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Misty.....	Capt.W. J. L. Wharton.
Algeria, N. 41° 30', W. 64° 10'	.....	.....	29.92	760.0	56	13.3	.....	NW	.....	.....	1	.....	10	WNW	.....	3	SSW	Overcast.....	Capt. Wm. Watson.
Agnes Wilson, N. 27° 10', W. 79° 45'	.....	.....	30.08	764.0	81	27.2	.....	SE	.....	.....	3	.....	10	.....	.....	2	SSE	Raining.....	Capt. H. W. Dyke.
Astarte, N. 30° 05', W. 39° 25'.... *	.....	.....	30.37‡	771.4‡	78	25.6	.....	ENE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Parson.
British Peer, N. 46° 35', W. 35° 45'	.....	.....	30.03‡	762.7‡	61	16.1	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	Capt. Raymond.
The ophane, S. 34° 45', E. 24° 50'	.....	.....	29.97‡	761.2‡	57	13.9	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	Showery	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.20	665.5	29.92	760.0	70.7	21.5	87	NE			1	3c;ck	6s;d		E	Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.86	758.4	29.91	759.6	64.9	18.3	67	SSW			2		5						
Faröe	29.74	755.4	29.76	755.9	66.4	19.1	60	S			6		9						
Godthaab (Greenland)	29.82	757.5	29.87	758.6	37.8	3.2	89	WSW			2		10					Foggy	
Stykkisholm (Iceland)	29.48	748.9	29.53	750.0	56.5	13.6	67	E			2		8						
Thorshavn (Faröe)	29.61	752.0	29.64	752.9	52.9	11.6	94	SSE			4		10					Foggy	
Vestervig	29.67	753.6	29.78	756.4	64.9	18.3	60	S			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.12	739.7	29.67	753.7	71.2	21.8	67	SW			2	8			SW	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.47	748.4	29.57	751.1	69.4	20.8	68	SE			1	10				0.189	4.8	Covered	Bonvallet, Director.
Arras, Engin'r School	29.38	746.3	29.63	752.6	66.0	18.9	67	S			5	10			SW			Raining	Klein, Commandant.
Avignon, Normal School	29.81	757.1	29.89	759.1	90.5	32.5	32	SSW			1	0				0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.21	742.0	29.73	755.2	79.3	26.3	36	SSW			1	8				0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.37	745.9	29.62	752.4	67.8	19.9	73	SSE			1	10			SSE	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	28.99	736.3	29.84	757.9	78.3	25.7	48	SW			1	2			W	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.99	736.4	29.03	760.1	81.9	27.7	42	S			5	6ck	S	S	S	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.21	742.0	29.74	755.4	75.6	24.2	56	S			1	5k	S	S	S			Fair	M. Gence, Director.
Brest, Naval Observatory	29.32	744.7	29.56	750.9	64.4	18.0	76	W			5	8			W	0.561	14.25		Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.43	747.4	29.82	757.3	82.6	28.2	39	NE			3	1			NE	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	29.48	748.8	29.55	750.6	64.8	18.2	82	SSW			5				SSW	0	0		Lair, Director.
Chartres, Normal School	29.06	738.2	29.61	752.2	66.6	19.2	93	S			5	10			N	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.2	29.76	755.9	74.1	23.4	52	SW			2	5				0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.47	723.0	29.72	755.0	85.5	29.7	27	SW			1	5			SW	0	0		Allnard, Director.
Commercy, Normal School	28.99	736.4	29.81	757.1	75.6	24.2	37	SW			5	6cs	SW	SW	SW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.90	734.0	30.04	763.0	87.8	31	32	SW			3	2			SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.12	739.6	29.84	758.0	79.9	26.6	54	NW			1	1cs		W		0	0	V. slightly Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.53	750.1	29.74	755.4	60.8	16.0	98	SW			5	10						Raining	Mouillot, Director.
Le Mans, Normal School	29.36	745.8	29.66	753.4	69.1	20.6	61	SW			5	8			SW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.97	735.9	29.85	758.2	82.4	28	33	S			3	2cn		W	W	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.49	749.0	29.59	751.6	63.0	17.2	80	W			3			S	W	0.031	0.8		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.64	752.9	29.90	759.5	83.8	28.8	63	WSW			1–2	0				0	0		E. Stephan, Director
Mire court, Normal School	28.81	731.7	29.81	757.2	72.3	22.4	58	NE			1	5			NE	0	0	Cloudy	Barbier, Director
Mont-Louis	24.88	631.9	30.19	766.9	77.0	25.0	31	WSW	15.0	6.7		0				0	0		M. Cave.
Nismes, Normal School	29.69	754.2	29.88	759.0	88.5	31.4	41	S			3	2			S	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.40	746.7	68.9	20.5	56	S			3	10			SW	Inap.	Inap.		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.61	574.5			57.6	14.2		SW			5	2				0	0	Fair	Gen'l de Nansouty.
Perpignan	29.75	755.7	29.85	758.3	75.9	24.4	69	SE	9.4	4.2		0				0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.15	638.4			62.2	16.8	43	SW			3	5				0	0		Allnard, Director.
Rochefort, Naval Obs'y	29.78	756.4	29.81	757.2	69.1	20.6	63	SW			2	10		W	W	0.51	13.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.51	749.5	29.60	751.7	66.6	19.2	68	SSE			1	10			S	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.51	749.0	29.54	750.3	63.3	17.4	88	W			3	10		SW	SW	0.081	2.04	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.51	749.5	29.67	753.7	69.6	20.9	59	S			2–3	10			SSW;SW	0.228	5.8	Covered	E. Renou, Director.
Tarbes, Normal School	29.62	737.2	30.07	763.7	77.5	25.3	61	W			1	0				0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.16	740.6	29.88	758.9	83.1	28.4	57	SSE			1	1				0.110	2.8		M. Juller Mercadier.
Tours	29.55	750.6	29.75	755.6	68.2	20.1		SSW			6	10			SSW	0	0		Cousin-Marquet.
Versailles, Observatory	29.17	740.8	29.66	753.3	69.8	21.0	50	S			6					0.296	7.53		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.13	739.8	29.80	756.8	83.3	28.5	43	SSE			1	2			SW	0	0	Slightly cl'dy	Nicot, Director.
SUB SERIES.																			
Fort de France, Martinique	29.85	758.1	29.87	758.8	80.6	27										0.63	16.		L'Abbé Richési.
Lyons Obs'y (Park Station)	29.22	742.1	29.80	756.9	83.7	28.7	32	SSW			1	c			SSW	0	0		Ch. André, Director.
Nice			29.97	761.2	70.3	20.3	72	E			3		2			0	0	Fair	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.67	753.7	29.70	754.3	79.0	26.1	94	ESE	4.5	2.0		9ck				0.059	1.5	Covered	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:06 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (0-12)	Clouds. Amount. Upper. (0-10)	Clouds. Amount. Lower. (0-10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.95	735.4	29.79	756.6	80.6	27.0	40	SE			4		4	S		0	0		Prof. Dr. Hoh.
Berlin	29.78	756.4	29.95	760.6	73.9	23.3	38	S			4		7			0	0		Prof. Dr. Arndt.
Breslau	29.51	749.5	30.04	763.0	72.3	22.4	44	SE			2		1			0	0		Royal University Obs'y.
Carlsruhe	29.37	746.0	29.77	756.2	77.7	25.4	60	NE			0		9	SW		0	0		Albert Sens.
Cassel	29.20	741.7	29.80	757.0	76.3	24.6	41	SSE			2		3	SW		0	0		Dr. H. Möhl.
Crefeld	29.55	750.5	29.71	754.6	75.0	23.9	49	SE			4		9			0	0		Director Lose.
Emden			29.61	752.2	70.9	21.6	60	S			1		9			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.45	748.0	29.81	757.1	77.7	25.4		S			2		4			0	0		Physical Society.
Freienwalde on the Oder	29.91	759.8	29.95	760.8	75.0	23.9	37	S			2		3k	S		0	0		Dr. Assmann.
Friedrichshaten	28.45	722.6	29.82	757.5	71.6	22.0	73	SW			4		9	SW		1.008	25.6		M. Wilhelm.
Hamburg	29.76	755.9	29.83	757.6	71.1	21.7	55	SSE			5		7k	SSE		0.094	2.4	Fair	Captain F. Hegemann.
Kiel	29.80	757.0	29.82	757.4	70.0	21.1	54	SE			3		8			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.5	64.0	17.8	58	W			5		2			0.071	1.8		Prof. E. Luther.
Köslin			29.98	761.4	63.1	17.3		N			4		1			0	0		H. Müller.
Leipsic Observatory	29.50	749.3	29.90	759.5	76.5	24.7	55	SE			2		5	S		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.88	758.9	29.93	760.1	61.5	16.4	74	W			7		8s						Skalweit.
Munich (München)	28.08	713.1	29.93	760.2	76.1	24.5	58	E			4		5			0.012	0.3		Dr. C. Larg.
Neufahrwasser	29.98	761.4	29.99	761.8	69.1	20.6	45	NW			3		7			0	0		A. Lothes.
Posen	29.76	755.8	30.04	762.9	73.2	22.9	41	SW			2		6			0	0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.2	29.82	757.4	78.1	25.6	49	S			3		9	SW		0	0		Imp. University Observatory.
Stuttgart	28.89	733.7	29.77	756.1	80.6	27.0	58	SW			1		5	W		0.311	7.9		Prof. Dr. Schoder.
Treves (Trier)														SW					Prof. Flesch.
Weissenburg (Bavaria)	28.39	721.1	29.82	757.5	78.6	25.1	49	ESE	11	5		7c				0	0		T. Hopfner.
Wustrow	29.91	759.8	29.94	760.4	72.3	22.4	55	SSE			2		7cs			0	0		L. Schultz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.7	29.93	760.1	90.5	32.5		NE			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.36	745.8	29.41	747.0	85.2	29.6	71	SSW					8		WSW	0	0	D. clouds	
Dersa	29.01	736.9	29.48	748.8	79.5	26.4	92	SSW	18.8	8.4			10		SW	5.18	130.3	Threatening	
Bombay	29.61	752.0	29.64	753.0	82.0	27.8	86	SW	21.0	9.4			10		WSW	0.64	16.3	Overcast	
Poona	27.81	706.3	29.66	753.4	75.3	24.1	77	WSW					10	ENE	WSW	0.07	1.8	Overcast	
Lahore	28.68	728.4	29.40	746.7	88.1	31.2	71	NE	3.8	1.7			3			0	0	Cloudy	
Belgaum	27.24	691.4	29.79	756.7	67.9	19.9	96	SW	9.0	4.0			10	SW	SW	0.58	14.7	Showery	
Roorkee	28.64	724.8	29.42	747.2	83.5	28.8	77	SE	6.0	2.7			10			0.04	1.0		
Agra	28.85	732.9	29.41	747.0	82.7	28.2	89	E					10		E	0	0		
Nagpur	28.53	724.8	29.57	751.0	78.9	26.1	87	SW	7.4	3.3			9		NE	0.04	1.0	Gloomy	
Lucknow	29.05	737.9	29.42	747.4	78.3	25.7	95	SSE	2.0	0.9			10			1.90	48.3	Overcast	
Allahabad	29.14	740.2	29.45	748.1	81.3	27.4	94	Calm	1.6	0.7			10			0.86	21.8	Overcast	
Patna	29.26	743.2	29.44	747.7	88.0	31.1	71	ESE	2.3	1.0			6	ESE	SE	0.16	4.1	D. clouds	
Hazaribagh	27.46	697.6	29.43	747.6	83.0	28.3	76	E	9.3	4.2			9		E	0.25	6.4	Showery	
Cuttack	29.42	747.4	29.50	749.4	79.3	26.3	85	NNW	3.0	1.3			10			1.11	3.0	Showery	
Calcutta (Alipore)	29.44	747.7	29.46	748.2	82.5	28.2	89	SSE	5.0	2.2			10		S	0.18	4.6	Showery	
Goalpara	29.14	740.1	29.52	749.8	84.0	28.9	73	S	3.5	1.6			9	WNW	S	0	0	D. clouds	
Chittagong	29.53	750.1	29.63	752.8	81.4	27.4	83	SSE	7.1	3.2			4			0	0	Misty	
Sibsagar	29.27	743.3	29.60	751.9	79.0	26.4	93	ESE	2.4	1.1			10	W	W	4.29	106.7	Overcast	
Jubbulpore	28.14	714.9	29.50	749.2	78.7	25.9	66	SW	5.4	2.4			10		N	0.29	7.4	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24-HOURS.		WEATHER.	OBSERVER.
												Upper	Low'r	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.55	750.5	29.97	760.5	84.6	29.2	39	NE	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.6	29.89	759.1	88.7	31.5	38	SE	.....	.....	2	.....	4	S	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.81	757.2	29.92	759.9	84.7	29.3	44	ESE	10.5	4.7	.....	.....	5	NW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.0	29.88	759 0	86.0	30.0	38	ESE	5.6	2.5	.....	.....	4	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.77	756.2	29.96	760.9	78.4	25.8	61	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.05	712.5	29.89	759.2	81.3	27.4	45	NE	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.86	758.4	29.91	759.6	81.7	27.6	62	NE	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.68	753.9	29.93	760.3	89.6	32.0	33	W	.....	.....	2	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.86	758.4	29.94	760.5	83.3	28.5	53	S	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.7	29.96	761.0	88.7	31.5	28	S	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.5	29.95	760.7	90.1	32.3	29	SSW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	29.06	738.0	29.89	759.2	93.9	34.4	61	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.69	754.0	29.87	758.7	80.4	26.9	75	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Padinotti.
Palermo	29.75	755.7	30.00	761.9	82.4	28.0	49	E	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.95	760.7	89.1	31.7	39	SW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.1	30.01	762.2	86.7	30.4	62	WSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.96	761.0	77.6	25.8	86	SW	3.1	1.4	.....	.....	10ck;s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	79.2	26.2	68	SW	6.3	2.8	.....	.....	9ck;s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.95	760.7	30.01	762.2	76.0	24.4	83	SW	14.1	6.3	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.96	761.0	30.01	762.2	78.7	25.9	74	SSW	5.5	2.5	.....	.....	1ks	.....	S	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	636.1	30.01	762.2	61.7	16.5	75	Calm	.....	.....	0	.....	9	.....	E	0.28	7.2	Very cloudy	Prof. L. Peres.
Leon	24.42	620.3	30.00	762.1	66.9	19.4	70	SW	.....	.....	1	2c	4k	.....	.....	0	0	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.8	30.01	762.2	57.7	14.3	85	Calm	0	0	.....	.....	10n	.....	S	1.29	32.7	Light rain	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	64.9	18.3	78	Calm	.....	.....	0	2c	0	NE	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	.....	.....	.....	.....	78.8	26.0	87	Calm	.....	.....	0	5	4	SE	NW	.....	.....	Raining	Prof. M. M. Chazaro.
San Luis Potosi	23.87	606.8	29.88	759.0	68.0	20.0	67	E	.....	.....	1	2	0	E	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	24.22	615.1	30.05	763.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla (Catholic Institute)	22.54	572.6	30.07	763.7	60.8	16.0	78	Calm	.....	.....	0	1c	0	SE	.....	0	0	Clear	J. C. Castrillon.
Colima	23.41	594.6	30.17	766.4	57.0	13.9	84	Calm	0	0	.....	9ck	0	SW	.....	1.22	30.9	Very cloudy	Prof. P. Spina.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	29.63	752.7	29.92	760.0	80.1	26.7	82	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.. Mexico, 2,265.8 m., or 7,433.9 ft.; Colima, 507.3 m., or 1,664.4 ft. Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.61	752.2	29.61	752.2	68.4	20.2	.....	SSE	.....	.....	5	.....	.....	.....	.....	0	0.	.....	.....
Groningen	29.66	753.1	29.71	754.5	68.9	20.5	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Helder	29.62	752.4	29.62	752.4	64.8	18.2	.....	SSE	.....	.....	4	.....	.....	.....	.....	0.343	8.7	.....	
Hellevoetsluis	29.63	752.7	29.63	752.7	68.9	20.5	60	SE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	29.62	753.6	29.67	752.4	72.3	22.4	51	SSE	.....	.....	4	.....	8	.....	.....	0.063	1.6	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.68	753.8	29.73	755.2	63.0	17.2	59	NW	4.5	2.0	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.80	757.0	29.84	758.0	54.7	11.6	80	N	4	2	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.60	751.9	29.74	755.5	70.2	21.2	47	SSW	7	3	.....	.....	4	.....	.....	0.157	4.0	.....	
Tromsö	29.81	757.2	29.85	758.3	53.2	11.8	79	NE	11	5	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.11	764.9	30.30	769.6	73.4	23.0	74	NW	16.1	7.2	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.06	763.5	77.4	25.2	39	WNW	13.7	6.1	.....	.....	4	WNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.16	766.1	30.25	768.3	74.7	23.7	67	SW	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.81	757.1	30.16	766.0	71.2	21.8	62	NW	13.7	6.1	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	768.5	30.32	770.2	77.7	25.4	71	WNW	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa. Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea	2	S	3	H. C. e Athayde.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	2	NNW	1	J.C. M. Cabrate, 1st Lt.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island	1	E	0	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado				L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	2	SW	0	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.61	752.0	30.02	762.4	68.2	20.1	52	WSW	7	3	.....	.....	6ks;k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.50	749.2	29.90	759.4	66.4	19.1	54	W	4	2	.....	.....	7	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.49	749.1	29.72	755.0	67.5	19.7	50	WSW	11	5	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.65	753.0	29.66	753.4	61.5	16.4	71	W	7	3	.....	.....	7cn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.25	742.9	29.85	758.3	71.4	21.9	62	NW	7	3	.....	.....	6ck;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.2	29.96	761.0	82.6	28.1	52	SSW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch																			Lagorio.
Moscow	29.17	740.9	29.69	754.2	69.3	20.7	63	S	9	4	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.56	750.8	29.75	755.7	87.8	31.0	39	WSW	22	10	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.66	753.3	29.68	753.8	50.2	10.1	94	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.70	729.0	30.07	763.6	77.5	25.3	54	SE	18	8	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.95	760.7	29.87	758.6	88.3	31.3	25	WSW	9	4	.....	.....	7k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.27	743.4	29.72	754.8	70.7	21.5	46	WNW	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.40	746.7	29.66	753.3	62.4	16.9	59	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.54	724.9	29.46	748.2	68.4	20.2	72	Calm	0	0	.....	.....	7ck;s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.59	751.6	29.82	757.4	73.2	22.9	66	NNW	7	3	.....	.....	7ks	.....	.....	.....	.....	.....	
Tashkend	28.08	713.1	29.52	749.7	90.5	32.5	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.98	736.0	29.43	747.6	83.7	28.7	46	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.5	29.74	755.4	85.5	29.7	60	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk																			
Peking (China)	29.48	748.8	29.62	752.4	85.8	29.9	58	Calm	0	0	.....	.....	8cs	.....	.....	.....	.....	Thunder-storm	Physical Observato ry.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	84.2	29	52	SSW	6.0	2.69	.....	.....	0	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.80	756.9	29.85	758.3	78.1	25.6	69	NW	2.5	1.12	.....	3	2	NE	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.8	.....	.....	77.4	25.2	31	S	8.8	3.92	.....	.....	7	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.76	705.2	29.83	757.6	91.8	33.2	24	SW	14.2	6.33	.....	2	1	NE	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.6	102.2	39.0	45	S	4.3	1.92	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.08	737.4	29.93	760.1	63.0	17.2	98	SW	18.1	8.1	.....	.....	10	.....	.....	0.299	7.6	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	760.9	30.02	762.6	78.8	26.0	98	ENE	6.0	2.7	.....	10cp	0	.....	.....	0.012	0.3	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.5	29.83	757.8	84.2	29.0	80	SW	4.5	2.0	.....	3cs	3ks	E	W	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.4	30.12	764.9	73.4	23.0	59	W	12.4	5.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.99	761.8	30.08	764.1	84.2	29.0	77	SE	0	0	.....	6ck	4k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid (655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.74	755.3	29.78	756 3	65.1	18.4	.....	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.73	755.1	29.62	752.4	62.0	17.0	41	NE	.....	.....	7	.....	5	.....	.....	0	0	.....	
Hernosand	29.69	754.2	29.74	755.5	58.6	14.8	87	N	.....	.....	6	.....	10	.....	.....	0.063	1.6	.....	
Stockholm	29.55	750.5	29.72	755.0	62.6	17.0	66	WNW	.....	.....	4	.....	5	.....	.....	0.020	0.5	.....	
Wisby	29.72	754.9	29.78	756.4	63.7	17.6	60	W	.....	.....	7	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.64	752.9	29.73	755.1	60.1	15.6	74	NNE	6.5	2.9	.....	.....	10	.....	NW	0.188	3.37	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Zurich	28.28	718.2	29.84	757.8	77.7	25.4	65	W	.....	.....	2	.....	3	.....	.....	0.102	2.6	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, —— per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.1	78.4	25.8	49	NNE	11	5.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.3	86.9	30.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.67	753.6	29.78	756.5	91.0	32.8	58	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Charlottetown, P. E. Island	30.02	762.5	30.08	764.0	60	15.6	72	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	G. A. Bain.
Cornwall, Ontario	29.99	761.7	30.03	762.7	60	15.6	81	E	3	1.3	.....	0	5s	.....	NE	Inap.	Inap.	Fair	H. J. Cundall, C. E.
Dalhousie, N. B	30.04	763.0	30.23	767.8	58.3	14.6	80	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Esquimault, B. C	29.90	759.4	30.06	763.5	56	13.3	81	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
*Father Point, Quebec	30.16	766.1	30.18	766.6	49	9.4	86	W	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	W. H. Bevis.
Fredericton, N. B	30.05	763.3	30.12	765.0	63.0	17.2	62	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	J. McWilliams.
*Fort Garry, Manitoba	28.60	726.4	29.39	746.5	63	17.2	88	NW	18	8.0	.....	5k	5n	NW	NW	1.480	37.59	Cloudy	Prof. Harrison.
Granton, Ontario	29.15	740.4	30.22	767.6	67	19.4	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Stewart.
*Halifax, N. S	29.90	759.4	30.01	762.2	61	16.1	73	NW	10	4.5	.....	2c	5ks	.....	NW	0	0	Clear	James Grant.
Hamilton, Ontario	29.91	759.7	30.28	769.1	62.7	17.1	79	NW	.....	.....	1	0	0	.....	.....	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	Clear	Geo. Dickson, A. M.
*Kingston, Ontario	29.94	760.5	30.26	768.6	66	18.9	84	S	3	1.3	.....	0	0	.....	.....	.....	.....	.....	E. Weedon.
Little Glace Bay, N. S	29.95	760.7	29.99	761.7	53.9	12.2	88	E	9	4.0	.....	8ck	0	E	.....	0	0	Clear	S. Woods, M. A.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec	30.04	763.0	30.24	768.1	63	17.2	62	NE	1	0.4	.....	0	0	.....	.....	.....	.....	.....	J. R. Nason.
*Parry Sound, Ontario	29.56	750.8	30.23	767.8	67	19.4	60	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
Peterboro, Ontario	29.52	749.8	30.25	768.3	67.7	19.8	69	S	.....	.....	1	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario	29.57	751.1	30.25	768.3	63	17.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Hastings, N. S	29.87	758.7	29.92	760.0	54	12.2	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.60	751.8	30.23	767.8	64	17.8	90	E	3	1.3	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.90	759.4	30.23	767.8	56	13.3	84	N	.....	.....	1	0	0	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.80	756.9	30.26	768.6	53	11.7	73	Calm	0	0	.....	2c	0	SW	.....	0	0	Clear	Capt. Ashe, R. N.
St. Andrews, N. B	30.02	762.5	30.07	763.8	60	15.6	61	N	.....	.....	2	0	0	.....	.....	0	0	Fair	W. H. McIntyre.
St. John, N. B	29.91	759.7	30.07	763.8	59	15.0	65	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.51	749.5	30.20	767.1	69	20.6	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Stayner, Ontario	29.46	748.3	30.24	768.1	56	13.3	40	SW	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	28.96	735.6	30.23	767.8	56.3	13.5	94	E	3	1.3	.....	0	0	.....	.....	0	0	Fair	R. J. Cole.
*Sydney, C. B	29.94	760.5	29.97	761.2	58	14.4	76	N	6	2.7	.....	8c	0	SW	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.90	759.4	30.27	768.8	65	18.3	47	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	T. C. Hill.
Windsor, N. S	29.92	760.0	30.01	762.2	59.0	15.0	88	NW	9	4.0	.....	0-	5ck	.....	.....	0	0	Clear	Magnetic Observatory.
Woodstock	29.18	741.1	30.22	767.6	65.2	18.4	78	Calm	0	0	.....	0	0	.....	.....	0.23	5.8	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.72	754.9	29.97	761.2	51.1	10.6	86	NE	.....	.....	.....	10kf	10sf	.....	.....	0	0	Clear	Prof. J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft. or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.06	763.5	30.29	769.4	63	17.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.54	750.3	30.16	766.1	67	19.4	69	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	43	6.1	100	SW	.....	.....	1	.....	10n	.....	SE	0.07	1.8	Cloudy	
Atlanta, Georgia	29.01	736.8	30.11	764.8	74	23.3	68	E	9	4.0	.....	2c	0	Calm	.....	0	0	Clear	
Atlantic City, New Jersey	30.23	767.8	30.25	768.3	67	19.4	69	N	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	30.00	762.0	30.19	766.8	77	25.0	73	SE	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	30.25	768.3	30.30	769.6	70	21.1	48	N	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.22	767.6	30.24	768.1	65	18.3	68	N	10	4.5	.....	0	0	.....	.....	0.14	3.6	Clear	
Bismarck, Dakota	28.00	711.2	29.86	758.4	62	16.7	71	NW	12	5.4	.....	1c	0	Calm	.....	0.40	10.2	Clear	
Boerne, Texas	28.48	723.4	29.73	755.1	76	24.4	82	SW	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Boise City, Idaho	27.12	688.8	30.08	764.0	49	9.4	64	SE	2	0.9	.....	5c	0	NW	.....	0	0	Fair	
Boston, Massachusetts	30.06	763.5	30.21	767.3	66	18.9	54	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Brackettville, Texas	28.73	729.7	29.71	754.6	80	26.7	70	E	7	3.1	.....	0	5ks	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.76	730.5	29.71	754.6	65	18.3	84	S	24	10.7	.....	.....	10ks	.....	Calm	0.48	12.2	Threatening	
Brownsville, Texas	29.80	756.9	29.85	758.2	87	30.6	69	SE	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.56	750.8	30.24	768.1	66	18.9	54	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	63	17.2	38	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.97	761.2	30.26	768.6	60	15.6	65	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.71	754.6	30.08	764.0	75	23.9	68	SE	6	2.7	.....	5ck	Haze	W	.....	0	0	Fair	
Campo, California	27.34	694.4	29.91	759.7	37	2.8	71	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	74	23.3	68	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.21	767.3	30.23	767.8	72	22.2	76	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.18	766.6	30.19	766.8	74	23.3	63	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.22	767.6	30.24	768.1	67	19.4	59	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.13	739.9	29.80	756.9	79	26.1	78	S	6	2.7	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	30.08	764.0	30.14	765.5	78	25.6	69	E	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.38	746.2	30.16	766.1	75	23.9	68	SE	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.38	746.2	30.16	766.1	72	22.2	67	NE	3	1.3	.....	5k	0	S	.....	0	0	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	53	11.7	73	N	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.44	747.8	30.10	764.5	71	21.7	66	S	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Cincinnati, Ohio	29.54	750.3	30.18	766.6	71	21.7	62	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.51	749.5	30.23	767.8	64	17.8	53	SE	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Coleman City, Texas	28.09	713.5	29.65	753.1	80	26.7	62	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.37	746.0	30.18	766.6	73	22.8	55	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	27.97	710.4	29.55	750.6	76	24.4	52	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.46	748.3	29.90	759.4	76	24.4	82	SE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Davenport, Iowa	29.42	747.3	30.04	763.0	70	21.1	70	S	6	2.7	.....	8cs	0	SW	.....	0	0	Fair	
Deadwood, Dakota	25.36	644.1	.....	.....	56	13.3	68	S	1	0.4	.....	0	0	.....	.....	0.16	4.1	Clear	
Decatur, Texas	28.73	729.7	29.82	757.4	87	30.6	55	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.13	739.9	29.89	759.2	74	23.3	81	SE	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Denver, Colorado	24.81	630.2	30.03	762.7	58	14.4	64	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.09	738.9	29.93	760.2	69	20.6	80	S	2	0.9	.....	2k	0	S	.....	0	0	Clear	
Detroit, Michigan	29.56	750.8	30.21	767.3	68	20.0	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.22	691.4	29.36	745.7	72	22.2	86	S	12	5.4	.....	0	5ks	.....	S	0	0	Fair	
Dubuque, Iowa	29.35	745.5	30.02	762.5	70	21.1	75	SE	7	3.1	.....	5k	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	29.12	739.6	29.77	756.1	65	18.3	78	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Eagle Pass, Texa	29.10	739.1	29.77	756.1	81	27.2	74	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.02	762.5	30.08	764.0	57	13.9	69	N	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.14	663.9	.....	.....	73	22.8	7	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.54	750.3	30.24	768.1	67	19.4	55	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.41	747.8	30.08	764.0	68	20.0	74	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	80	26.7	16	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.78	705.6	.....	.....	56	13.3	87	W	1	0.4	.....	0	0	.....	.....	0.14	3.6	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	78	25.6	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.39	746.5	29.90	759.4	76	24.4	56	SE	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	70	21.1	21	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.83	757.7	80	26.7	59	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.32	693.9	.....	.....	57	13.9	69	S	1	0.4	.....	0	0	.....	.....	0.32	8.1	Clear	
Fort McKavett, Texas	27.65	702.0	29.47	748.5	73	22.8	59	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.64	727.4	29.69	754.1	74	23.3	76	SE	14	6.3	.....	0	0	.....	.....	0.40	10.2	Clear	
Fort Stevenson, Dakota	27.94	709.7	.....	.....	61	16.1	82	W	14	6.3	.....	.....	8s	.....	W	0.42	10.7	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	50	10.0	32	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.68	753.9	73	22.8	85	S	4	1.8	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.88	758.9	29.92	760.0	84	28.9	75	SE	3	1.3	.....	0	2ks	.....	SE	0	0	Clear	
Graham, Texas	28.79	731.3	29.78	756.4	79	26.1	66	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.52	749.8	30.14	765.5	72	22.2	80	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.90	734.0	29.78	756.4	76	24.4	82	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.36	745.7	30.11	764.8	72	22.2	64	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.90	759.4	29.93	760.2	82	27.8	79	S	5	2.2	.....	2k	0	S	.....	0	0	Fair	
Jacksboro, Texas	28.77	730.7	29.84	757.9	80	26.7	62	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	78	25.6	86	NE	10	4.5	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Keokuk, Iowa	29.38	746.2	29.97	761.2	70	21.1	70	SE	10	4.5	.....	4k	0	W	.....	0	0	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	82	27.8	79	SE	8	3.6	.....	10k	0	SE	.....	0	0	Cloudy	
Kittyhawk, North Carolina	30.20	767.1	30.22	767.6	71	21.7	75	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.21	741.9	30.18	766.6	71.5	21.9	62	NE	2	0.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	69	20.6	75	S	8	3.6	.....	2k	0	Calm	.....	0	0	Clear	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	56	13.3	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.47	748.5	29.79	756.7	85	29.4	51	SE	3	1.3	.....	5k	0	SW	.....	0	0	Fair	
Leavenworth, Kansas	29.09	738.9	29.89	759.2	71	21.7	75	S	16	7.2	.....	.....	10ks	.....	SW	0.11	2.8	Threatening	
Little Rock, Arkansas	29.69	754.1	30.04	763.0	72	22.2	80	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.58	751.2	29 92	760.0	57.5	14.2	84	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.58	751.3	30.12	765.0	72	22.2	67	NE	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.59	751.6	30.25	768.3	73	22.8	85	N	1	0.4	.....	2k	0	N	.....	0	0	Fair	
Madison, Wisconsin	29.09	738.9	30.04	763.0	67	19.4	79	S	7	3.1	.....	8k	0	S	.....	0	0	Fair	
Marquette, Michigan	29.32	744.7	30.00	762.0	68	20.0	70	SW	4	1.8	.....	5c	0	SW	.....	0	0	Fair	
Mason, Texas	28.28	718.3	29.95	760.7	78	25.6	57	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.72	754.9	30.05	763.3	74	23.3	68	E	5	2.2	.....	4ck	0	Calm	.....	0	0	Fair	
Milwaukee, Wisconsin	29.39	746.5	30.09	764.3	67	19.4	79	S	9	4.0	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	80.5	26.9	80	E	12	5.4	.....	0	5ks	.....	S	0.23	5.8	Fair	
Montgomery, Alabama	29.88	758.9	30.10	764.5	79	26.1	65	E	8	3.6	.....	5ck	0	SE	.....	0	0	Fair	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er. 0—10	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Morgantown, West Virginia	29.26	743.2	30.21	767.3	69	20.6	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	24.00	609.6	30.36	771.1	36	2.2	61	NW	18	5.8	.....	2k	0	NW	.....	0	0	Clear.....	
Nashville, Tennessee.....	29.60	751.8	30.11	764.8	79	26.1	54	E	1	0.4	.....	5cs	0	E	.....	0	0	Fair.....	
New Haven, Connecticut.....	30.12	765.0	30.24	768.1	70	21.1	61	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut....	30.18	766.6	30.23	767.8	70	21.1	53	N	6	2.7	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
New Orleans, Louisiana.....	29.92	760.0	29.97	761.2	83	28.5	75	E	4	1.8	.....	2c	1ks	SW	Calm	0	0	Fair.....	
Newport, Rhode Island.....	30.16	766.1	30.21	767.3	67	19.4	60	N	11	4.9	.....	0	0	.....	.....	0.02	0.5	Clear.....	
New York, New York.....	30.09	764.3	30.27	768.8	69	20.6	60	N	6	2.7	.....	0	Haze	.....	Calm	0.28	7.1	Clear.....	
Norfolk, Virginia.....	30.18	766.6	30.24	768.1	77	25.0	69	SE	2	0.9	.....	0	Haze	.....	.....	0	0	Clear.....	
North Platte, Nebraska.....	26.92	683.8	29.34	745.2	69	20.6	90	SE	16	7.2	.....	2k	2s	SW	S	0	0	Fair.....	
Olympia, Washington Ter.	30.10	764.5	30.14	765.5	42.0	5.6	98	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska.....	28.75	730.2	29.79	756.7	72	22.2	76	SE	10	4.5	.....	5k	2s	SW	Calm	0	0	Fair.....	
Oswego, New York.....	29.97	761.2	30.29	769.4	62	16.7	77	SW	1	0.4	.....	.....	0	.....	.....	0	0	Clear.....	
Pembina, Dakota.....	28.78	720.7	29.51	749.6	64	17.8	78	W	12	5.4	.....	.....	10s	.....	Calm	0.68	17.3	Cloudy.....	
Philadelphia, Pa.....	30.22	767.6	30.27	768.8	67	19.4	60	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona.....	28.62	726.9	30.35	770.9	76	21.1	18	W	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	17.93	455.4	30.14	765.5	37	2.8	15	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada.....	.....	.....	.....	.....	54	12.2	26	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.44	747.8	30.25	768.3	62	16.7	67	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.56	750.8	30.21	767.3	65	18.2	68	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	30.14	765.5	30.19	766.5	63	17.2	57	N	12	5.4	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Portland, Oregon.....	30.11	764.8	30.15	766.6	48.0	8.9	93	S	3	1.3	.....	0	2s	.....	N	0	0	Clear.....	
Prescott, Arizona.....	24.70	627.4	30.06	763.5	52	11.1	18	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas..... ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida.....	30.02	762.5	30.04	763.0	78	24.4	86	E	9	4.0	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Red Bluff, California.....	29.48	748.8	29.83	757.7	65	18.3	54	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.67	753.6	29.88	758.9	83	28.3	75	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.65	753.1	30.26	768.6	63	17.2	62	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon.....	29.57	751.1	30.15	765.8	45	7.2	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.76	755.9	29.84	757.9	55	12.8	81	S	7	3.1	.....	2c	0	Calm	.....	0	0	Clear	
St. Louis, Missouri.....	29.49	749.0	30.04	763.0	72	22.2	71	SE	5	2.2	.....	5ck	Haze	W	....	0	0	Fair.....	
St. Marks, Florida.....	30.06	763.5	30.07	763.8	75	23.9	90	SE	11	4.9	.....	.....	10s	.....	SE	1.08	27.4	Cloudy.....	
St. Paul, Minnesota.....	29.08	738.6	29.87	758.7	66	18.4	78	SE	7	3.1	.....	2k	0	SE	.....	0	0	Clear.....	
Salt Lake City, Utah.....	25.56	649.2	29.89	759.2	60	15.6	44	Calm	0	0	.....	7k	0	SW	.....	0	0	Fair...	
San Antonio, Texas.....	29.22	742.2	29.78	756.4	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.88	758.9	29.95	760.7	62	16.7	77	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.55	750.6	30.22	767.6	68	20.0	74	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey...	30.22	767.6	30.26	768.6	64	17.8	78	N	8	3.6	.....	0	Haze	.....	Calm	0.13	3.3	Clear.....	
San Francisco, California..	29.54	757.9	29.90	759.4	54	12.2	80	SW	11	4.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico.....	23.30	591.8	29.84	757.9	51	10.6	22	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	30.05	763.3	30.14	765.5	78	25.6	73	NE	9	4.0	.....	2ck	0	E	.....	0	0	Fair	
Shreveport, Louisiana.....	29.76	755.9	29.97	761.2	72	22.2	71	SE	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear.....	
Silver City, New Mexico.....	24.29	617.0	30.38	771.6	53	11.7	19	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.18	766.6	30.21	767.3	74	23.3	81	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico..	25.36	644.1	29.42	747.3	68	20.0	7	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Ill	29.48	747.5	30.11	764.8	71	21.7	66	SE	1	0.4	.....	2ck	2s	SW	S	0	0	Fair.....	
Springfield, Massachusetts	30.12	765.0	30.24	768.1	68	20.0	56	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas.....	26.83	681.5	29.83	757.7	76	24.4	34	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass....	30.16	766.8	30.20	767.1	62	16.7	72	N	16	7.2	.....	Haze	Haze	.....	.....	0.01	0.3	Hazy.....	
Toledo, Ohio, ...	29.52	749.8	30.19	766.8	71	21.7	53	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona..... ...	27.42	696.5	29.96	761.0	74	23.3	39	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon..... .	29.68	753.9	30.17	766.3	56.0	13.3	66	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	28.97	735.8	29.75	755.6	79	26.1	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.77	756.1	30.02	762.5	76	24.4	60	SE	8	3.6	.....	2k	0	SE	.....	0	0	Clear.....	
Virginia City, Montana.....	24.29	617.0	29.77	756.1	44	6.7	52	SE	4	1.8	.....	0	0	.....	.....	0.30	7.6	Clear.....	
Visalia, California.....	29.46	748.3	29.82	757.4	57	13.9	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	30.17	766.3	30.28	769.1	70	21.1	48	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	55	12.8	33	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina....	30.12	765.0	30.20	767.1	74	23.3	68	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.60	650.2	29.96	761.0	48	8.9	28	NE	12	5.4	.....	4c	1s	Calm	NE	0	0	Fair.....	
Wood's Holl, Mass.....	30.15	765.8	30.19	766.8	65	18.3	68	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.54	724.9	29.76	755.9	68	20.0	79	S	11	4.9	.....	5ck	0	W	.....	Inap	Inap.	Fair.....	
Yuma, Arizona.....	29.60	751.8	29.76	755.9	72	22.2	54	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	29.94	760.5	29.99	761.7	81	27.2	82	Calm	0	0	.....	4c	4ks	Calm	SE	0	0	Cloudy.....	J. B. Gordon.
Kingston, Jamaica, W. I...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A....	25.20	640.1	.....	.....	67.0	19.4	78	Calm	.....	.....	0	2k	2ks	.....	.....	0	0	.....	James Gall.
Navassa, W. I.....	29.86	758.4	29.94	760.5	80	26.7	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	77	25.0	91	E	.....	.....	2	5k	6ks	E	.....	0.430	10.92	Fair.....	F. M. Everett.
Santiago de Cuba, W. I...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	½ Clouded?	O. J. Hering.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft. or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 65.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.15‡	765.8‡	.....	.....	80.	26.7	96	ENE	15	6.7	.....	.....	8	.....	NE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡	.....	.....	76	24.4	88	SW	.....	.....	3	1c	.....	.....	SW	0	0	.....	.....	Clear	
Adams. N. 19° —', W. 104° 40'	29.92‡	760.0‡	.....	.....	81	27.2	96	NNW	.....	.....	2	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Alliance. Southamptoa, Eng	29.46‡	748.0‡	.....	.....	60	15.6	88	SSW	.....	.....	5	.....	9	.....	SW	.....	.....	.....	.....	Cloudy	
Ashuelot, About N. 21°, E. 129°	30.06‡	763.5‡	.....	.....	79	26.1	86	S	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Colorado, New York, N. Y.	30.28‡	767.8‡	.....	.....	69	20.6	56	N	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constellation, N. 44° 30,' W. 68° 15'	30.01‡	762.2‡	.....	.....	53.2	11.8	93	NE	.....	.....	2	.....	2	.....	Calm	0	0	Long	SW	Clear	
Constitution, League Isl Navy Yard, Pa.	30.26‡	768.6‡	.....	.....	67	19.4	64	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, Christiania, Norway	29.76‡	755.9‡	.....	.....	72	22.2	59	S	.....	.....	1	.....	5?	.....	S	.....	.....	.....	.....	Clear?	
Franklin. Norfolk, Va.	30.22‡	767.6‡	.....	.....	74	23.3	76	Calm	0	0	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Hartford. Montevideo, Uruguay	30.33‡	770.4‡	.....	.....	48	8.9	78	SE	3	1.3	.....	.....	5	.....	E	0	0	.....	.....	Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	63	17.2	62	SSW	2	0.9	.....	.....	1	.....	SSW	.....	.....	.....	.....	Clear	
Kearsarge, New York, N.Y.	30.25‡	768.3‡	.....	.....	75	23.9	59	WSW	.....	.....	2	.....	3	.....	wsw	.....	.....	.....	.....	Clear	
Michigan, Erie, Pa	30.20‡	767.1‡	.....	.....	68.5	20.3	54	SSE	....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	29.68‡	753.9‡	.....	.....	81	27.2	87	SSE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	30.06‡	763.5‡	.....	.....	77	25.0	86	S	.....	.....	3–5	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.12‡	765.0‡	.....	.....	79	26.1	78	NE	5	2.2	.....	.....	2	.....	NE	0	0	.....	.....	Clear	
Onward, Callao, Peru, †.	30.19‡	766.8‡	.....	.....	62	16.7	77	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.70‡	754.4‡	.....	.....	80	26.7	96	SSE	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	.....	.....	.....	.....	69	20.6	90	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 17° 58', W. 72° 58'	30.06‡	763.5‡	.....	.....	61	16.1	88	SSE	2	0.9	.....	.....	5?	.....	S	0	0	Smooth	SW	Clear?	
Portsmouth, Newport, Rhode Island.	30.21‡	767.3‡	.....	.....	63	17.2	67	NE	.....	.....	3	.....	2	.....	N	0	0	Smooth	.....	Clear	
Powhatan, New York, N. Y.	30.22‡	767.6‡	.....	.....	67	19.4	64	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Constantinople, Turkey	29.96‡	761.0‡	.....	.....	76	24.4	53	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.68‡	753.9‡	.....	.....	83	28.3	87	S	.....	.....	1–2	.....	2	.....	Calm	.....	.....	Smooth	Calm	Clear	
Richmond, Simidsu Bay, Japan	30.05‡	764.0‡	.....	.....	79	26.1	86	WSW	.....	.....	0–1	.....	2	.....	wsw	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.86‡	758.4‡	.....	.....	83	28.3	91	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	30.27‡	768.8‡	.....	.....	69	20.6	61	N	.....	.....	2	.....	5?	.....	.....	0	0	.....	.....	Clear?	
Saratoga. Murray, Bermuda, N. Atlan.	30.15‡	765.8‡	.....	.....	79	26.1	95	SSW	.....	.....	5	.....	10	.....	SSW	0	0	.....	.....	Overcast	
St. Louis, League Island, Pa	30.23‡	767.8‡	.....	.....	68	20.0	65	N	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Misty	
Trenton, Spit Head, Eng.	29.41‡	747.0‡	.....	.....	59	15.0	94	SW	.....	.....	5–6	.....	10	.....	SW	.....	.....	Smooth	.....	Drizzling	
Tuscarora, Mare Island Navy Yard, Cal	29.91‡	759.7‡	.....	.....	56	13.3	94	SSW	.....	.....	1	.....	9	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	30.23‡	767.8‡	.....	.....	66	18.9	74	N	.....	.....	1	.....	2	.....	N	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass	30.19‡	766.8‡	.....	.....	62	16.7	66	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wyoming, Trieste, Austria	29.91‡	759.7‡	.....	.....	84	28.9	47	ENE	.....	.....	2–3	.....	2	.....	E	.....	.....	Smooth	E	Clear	
Wachusett, 10 m'ls above Vicksburg, Miss	29.95‡	760.7‡	.....	.....	76	24 4	73	N	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, San Jose, Guatemala, Cen. A†		29.92‡	760.0‡	79	26.1	100	N			3		8		Calm	0.29 in or 7.4mm.	Small Ground	S	Showery	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, N. 46° 25', W. 124° 50'.†		30.21‡	767.8‡	60	15.6		NW			2		2		SW	0	Light	NW	Clear	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. Hong-Kong, China		29.74‡	755.4‡	84	28.9		SW			3		ks		SW	0	Smooth		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 39° 22', E. 168° 08'		30.00‡	762.0‡	58	14.4	100	W			3		8		W		2	W	D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.49‡	749.0‡				S			2		5		SSW				Cloudy?	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.	.....	29.31‡	744.6‡	58	14.4	88	Var.	.....	.....	7	.....	10	.....	N	Heavy	Heavy	NW	Cloudy	Captain R. W. Sargent.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Shackford, Chief Officer.
S. S. Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N 23° 37', W 87° 42'	.....	30.02‡	62.5‡	83	28.3	87	ENE	5	2.2	.....	.....	5ks	.....	E	0.08 in. or 2.0 mm	Smooth	.....	Cloudy†	Capt. James Jorgensen.
Schooner Charley Buck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†	.....	30.11‡	764.5‡	.....	.....	.....	ENE	.....	.....	5	.....	2	.....	ENE	.....	Mod'ate	.....	Showery	N. B. Foss.
Schooner Harry and Fred. W. D. Hilton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. B. Horner.
Sch'r A. A. Rowe, Capt. Beckwith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Schooner Henry Whitney	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Shepherd.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., BVT. ASS'D, CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 2, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSÉ mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.10	764.5	66.9	19.4	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.02	762.6	82.4	28.0	70	Calm	.....	.....	0	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.95	760.6	86.0	30.0	33	WSW	.....	.....	7	.....	0	.....	.....	0	0	Clear	Tourlliere.
La Calle	.....	.....	29.98	761.6	80.2	26.8	80	NE	.....	.....	2	.....	5	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.05	763.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.4	86.7	30.4	11	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.97	761.3	99.0	37.2	15	SW	.....	.....	4	.....	2	.....	.....	0.028	0.7	Fair	Watrin.
Geriville	.....	.....	30.03	762.5	85.1	29.5	45	S	.....	.....	7	.....	0	.....	.....	0.004	0.1	Clear	Brugnlaux.
Laghouat	.....	.....	30.06	763.4	100.4	38.0	23	SW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.83	757.7	102.9	39.4	39	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.10	740.0	29.67	753.5	91.8	33.2	26	SW	.....	.....	0	.....	2	.....	.....	0.016	0.4	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.93	734.8	29.65	753.1	82.6	28.1	65	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Dr. Wierzbiski.
Eperies	28.89	733.7	29.71	754.6	81.3	27.4	67	S	.....	.....	2	.....	1cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.45	722.6	29.61	752.1	86.4	30.2	38	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.43	722.1	29.69	754.2	91.4	33.0	42	SE	.....	.....	1	.....	2	.....	.....	0.104	2.65	.....	Prof. A. Gottschling.
Kremsmünster	28.54	725.0	29.80	758.4	59.7	15.4	74	WSW	.....	.....	5	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.78	730.9	29.70	754.4	78.6	25.9	61	S	.....	.....	2	.....	0	.....	.....	0.138	3.5	.....	Dr. T Stanecki.
Pola	29.65	753.1	29.78	755.8	86.4	30.2	52	SSE	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.33	745.0	29.76	755.9	90.5	32.5	50	W	.....	.....	3	.....	4	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.45	748.0	29.71	754.5	89.6	32.0	52	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.66	753.3	29.76	755.9	83.8	28.8	74	N	.....	.....	1	.....	2	.....	.....	Inap.	Inap.	.....	P. Busin.
Vienna	28.93	734.7	29.65	753.1	88.9	31.6	43	S	.....	.....	5	.....	4	.....	.....	0.059	1.5	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	28.85	732.8	28.94	735.1	57.0	13.9	.....	SW	19	8.5	.....	.....	7	.....	.....	Blank	Blank	D. clouds	W. Boswell.
Ardrossan	29.11	739.4	29.12	739.6	53	11.7	.....	W	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.14	740.1	29.35	745.5	57.7	14.3	.....	W	14	6.3	.....	.....	7	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.40	746.7	58.4	14.7	.....	WSW	29	13.0	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.39	746.5	56.8	13.8	.....	SW	48	21.5	.....	*	9	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.01	736.8	29.40	746.7	57.0	13.9	.....	W	.....	.....	5	.....	6	.....	.....	0.39	9.9	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	8.5	29.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.46	748.3	29.55	750.6	61.0	16.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.54	750.3	64.0	17.8	.....	W	.....	.....	6	.....	5	.....	.....	Blank	Blank	D. clouds	John McLaren.
Chatham, School M. E.	29.51	749.5	29.64	752.8	61.5	16.4	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.24	742.7	29.28	743.7	59	15.0	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.60	751.8	29.63	752.6	60	15.6	.....	WSW	.....	.....	6	.....	2	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.53	750.0	29.75	755.6	58.7	14.8	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.62	701.5	29.00	759.4	63.0	17.2	.....	N	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	85	29.4	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.46	748.3	58	14.4	.....	W	.....	.....	6	.....	9	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	73.6	23.1	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	28.88	733.5	29.09	738.9	50.9	10.5	.....	WSW	.....	.....	9	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	29.54	750.3	29.54	750.3	63	17.2	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	Squally	G. T. Watson.
Greenwich, Royal Obs'y	29.46	748.3	29.63	752.6	58.0	14.4	.....	SW	.....	.....	3	.....	7	.....	.....	Blank	Blank	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.58	751.3	29.80	756.9	60	15.6	.....	WSW	.....	.....	5	.....	3	.....	.....	.....	.....	Squally	Dr. S.E.Hoskins,F.R.S.
Helston	29.69	754.1	29.81	757.2	60	15.6	.....	W	.....	.....	4	.....	4ck	.....	.....	0.12	3.0	Showery	M. P. Moyle.
Holyhead	29.45	748.0	29.47	748.5	56	13.3	.....	SW	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.56	750.8	29.85	758.2	58.1	14.5	.....	W	.....	.....	6	.....	6	.....	.....	Blank	Blank	Squally	J. Fisher.
Kew, Observatory	29.58	751.3	29.62	752.3	60.8	16.0	.....	WSW	15	6.7	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester, Museum	29.26	742.9	29.50	749.3	61.8	16.6	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.84	757.9	29.91	759.7	84	28.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	28.81	731.8	28.90	734.0	54	12.2	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.09	764.3	81.0	27.2	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.28	743.7	29.46	748.3	67.2	19.6	.....	SW	.....	.....	6	.....	4c;k	.....	WSW	0.021	0.54	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.98	736.1	29.49	749.0	60.0	15.6	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	Rev. Stephen J.Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.50	749.3	60	15.6	.....	W	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.04	752.8	29.72	754.9	60.7	15.9	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery	John Merrifield.
Prince Town	28.28	718.3	29.76	755.9	44.9	7.2	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	Squally	W. H. Tooker.
*Roche's Point	29.55	750.6	29.66	753.4	57	13.9	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.44	747.8	29.60	751.8	55	12.8	.....	WSW	.....	.....	7	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.95	760.7	56	13.3	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	88.4	31.3	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.16	740.7	29.43	747.5	61.0	16.1	.....	SSW	.....	.....	6	.....	5	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.23	742.4	29.26	743.2	58.4	12.7	80	SW	.....	.....	6	.....	8	.....	.....	0.630	16.00	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.39	746.5	56.9	13.8	.....	SSW	31	13.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.41	747.0	29.62	752.3	62.4	16.9	.....	SW	.....	.....	2–3	.....	6	.....	.....	.....	.....	Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.73	755.1	29.75	755.6	61	16.1	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	W.Newcombe.
Valencia, Observatory	29.62	752.3	29.64	752.8	57.6	14.2	.....	W	30	13.4	.....	.....	7	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.30	769.6	30.34	770.6	62.0	16.7	82	SSE	5.8	2.6	.....	3	4	.....	.....	0	0	Fair	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.26	769.1	41	5.0	78	N	.....	.....	1	.....	10k	.....	.....	0.02	0.5	Covered	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.13	739.9	54.0	12.2	.....	W	.....	.....	7	.....	10k	.....	.....	0.02	0.5	Overcast	Andrew Gibb
Mauritius, Observatory	29.94	760.5	30.13	765.3	73.6	23.1	64	W	5.5	2.5	.....	0	3	.....	SSW	0.02	0.5	Fine	C. Meldrum.
Melbourne, Observatory	30.09	764.3	30.18	766.6	42.0	5.6	90	NE	6	2.7	.....	.....	2	.....	.....	0	0	Foggy	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.92	760.0	52	11.1	.....	NNW	.....	.....	7	.....	10	.....	.....	0.4	10	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.03	737.3	50	10.0	.....	SE	.....	.....	8	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25′, E. 28° 35′	.....	.....	29.87‡	758.7‡	75.5	24.2	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	Capt.W. J. L. Wharton.
Algeria, N. 40° 35′, W. 71° 20′	.....	.....	30.26	768.6	64	17.8	.....	WSW	.....	.....	2	.....	0	.....	.....	2	.....	Blue sky	Capt. Wm. Watson.
Agnes Wilson, N. 30° 00′, W. 79° 55′	.....	.....	30.18	766.6	79	26.1	.....	ENE	.....	.....	5	.....	6	.....	.....	4	NNE	D. clouds	Capt. H. W. Dyke.
Astarte, N. 32° 25′, W. 39° 30′ *	.....	.....	30.37‡	771.4‡	77	25.0	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. Parson.
British Peer, N. 49° 10′, W. 31° 55′	.....	.....	29.88‡	758.9‡	58.5	14.7	.....	WSW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	Capt. Raymond.
Theophane, S. 35° 30′, E. 24° 05′	.....	.....	30.04‡	763.0‡	.....	.....	.....	WNW	.....	.....	9	.....	8	.....	.....	.....	.....	Raining	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.27	667.2	29.99	761.7	68.9	20.5	87	NE	.....	.....	1	6cs	1ks	.....	.....	0.2	5.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.58	751.2	29.62	752.4	63.3	17.4	68	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining
Farôe	29.54	750.2	29.56	750.7	61.2	16.2	70	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.79	756.7	29.84	757.8	40.1	4.5	84	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.60	751.8	29.64	752.9	54.1	12.3	73	E	.....	.....	2	.....	8	.....	.....	.....	.....	Raining
Thorshavn (Farôe)	29.06	738.1	29.10	739.0	49.3	9.6	100	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining
Vestervig	29.37	746.1	29.48	748.9	59.2	15.1	77	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.35	745.6	29.91	759.6	58.6	14.8	84	SW	.....	.....	1	.....	8	.....	W	0.453	11.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.68	753.9	29.79	756.6	66.6	19.2	61	SW	.....	.....	1	.....	8	.....	NE	0.08	2.	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.53	750.1	29.78	756.5	59.7	15.4	60	SW	.....	.....	5	.....	.....	.....	WNW	0.272	6.9	.....	Klein, Commandant.
Avignon, Normal School	29.86	758.5	29.94	760.5	72.5	22.5	48	N	.....	.....	3	.....	2	.....	WSW	0.098	2.5	Partly clo'dy	Giraud, Director.
Bar-sur-Seine	29.37	746.1	29.92	760.0	63.3	17.4	57	Var.	.....	.....	3	.....	8kn	.....	W	0.213	5.4	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.56	750.8	29.62	757.4	61.0	16.1	66	WSW	.....	.....	5	.....	5	.....	W	0.236	6.0	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.10	739.1	29.97	761.3	63.9	17.7	57	SSW	.....	.....	1	.....	2	.....	SW	2.067	52.5	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.9	30.10	764.5	65.7	18.7	61	W	.....	.....	5	5c	.....	SW	SW	0.165	4.2	Cloudy	Mariot, Director.
Bourges, Normal School	29.41	746.9	29.95	760.6	66.2	19	66	W	.....	.....	1	2c	.....	W	W	0.20	5.	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.60	751.8	29.84	758.0	64.8	18.2	71	SW	.....	.....	3	.....	8	.....	W	0.226	5.75	Squally	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.8	30.04	763.1	70.0	21.1	49	WNW	.....	.....	3	.....	5	WNW	WNW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.76	755.9	29.83	757.7	64.8	18.2	62	W	.....	.....	1	.....	.....	.....	W	0.28	7.	.....	Lair, Director.
Chartres, Normal School	29.80	744.2	29.85	758.1	63.7	17.6	88	SW	.....	.....	3	.....	4	.....	NE	0.39	10.	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.3	29.85	758.2	64.4	18.0	57	SW	.....	.....	3	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.66	727.0	29.96	761.0	71.8	22.1	37	W	.....	.....	1	.....	5	.....	W	0.248	6.3	.....	Allnard, Director.
Commercy, Normal School.	29.04	737.6	29.88	759.0	63.9	17.7	56	WSW	.....	.....	5	.....	2ck	WSW	WSW	0.610	15.5	Slightly cl'dy	Dr. Cousot, Director.
Commune de Gréasque*	28.80	731.4	29.94	760.4	69.4	20.8	53	NW	.....	.....	3	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.28	743.6	30.03	762.8	62.2	16.8	63	N	.....	.....	1	.....	5kn	.....	NW	1.46	37.	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.79	756.6	30.00	761.9	65.8	18.8	63	W	.....	.....	3	.....	8	.....	SE	0.520	13.2	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.63	752.7	29.94	760.5	55.8	13.2	88	W	.....	.....	5	.....	8	.....	W	0.35	9.	Very cloudy	Poirrier, Director.
Lens-Le-Saulnier, N.School	29.10	739.0	30.00	761.9	64.9	18.3	59	W	.....	.....	3	.....	5k	W	W	1.567	39.80	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.85	758.1	29.95	760.7	61.5	16.4	66	WSW	.....	.....	6	.....	.....	.....	SSW	0.571	14.5	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. T. Carré, Director.
Mirecourt, Normal School	29.61	752.1	29.87	758.8	69.4	20.8	26	NW	.....	.....	5	.....	7	.....	.....	0	0	Very cloudy	E. Stephan, Director
Mont-Louis	28.91	734.2	29.95	760.7	55.8	13.2	75	SW	.....	.....	1	.....	10	.....	SW	0.787	20.	Covered	Barbier, Director
Nîsmes, Normal School	24.85	631.2	30.17	766.2	54.5	12.5	58	NE	18.6	8.3	.....	.....	7	.....	E	0	0	.....	M. Cave.
Paris, Montsouris Obs'y	29.75	755.6	29.94	760.5	76.4	25.8	31	NW	.....	.....	3	.....	2	.....	NW	0	0	Slightlycl'dy	M. Boyer, Director.
Pic du Midi (Summit) H. P.	.....	.....	29.58	751.3	64.2	17.9	51	WSW	.....	.....	5	.....	9	.....	W	0.299	7.6	Sprinkling	Marie Davy, Director.
Pic du Midi (Plantade) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Perpignan	22.57	573.2	.....	.....	38.7	3.7	.....	W	.....	.....	1	.....	10	.....	.....	0.177	4.5	Threatening	Gen'l de Nansouty.
Privas, Normal School	29.89	759.2	29.99	761.8	69.4	20.8	44	N	20.6	9.2	.....	.....	7	NW	.....	0	0	.....	Dr. Fines.
Puy de Dome (Summit) Obs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Rochefort, Naval Obs'y	25.16	639.1	.....	.....	42.8	6.0	79	SW	.....	.....	3	.....	8	.....	.....	0.276	7.0	.....	Allnard, Director.
Rouen, Normal School	30.01	762.3	30.04	763.1	68.4	20.2	57	WSW	.....	.....	1	.....	5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Saint Malo (Port) Obs'y	29.74	755.5	29.83	757.7	58.1	14.5	78	W	.....	.....	1	.....	8	.....	W	0.335	8.5	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.82	757.5	29.85	758.3	60.6	15.9	79	WNW	.....	.....	2	.....	8	WNW	WNW	0.164	4.18	Very cloudy	Lt. Hercouet, Director.
Tarbes, Normal School	29.71	754.5	29.87	758.7	65.7	18.7	55	WSW	.....	.....	2-3	.....	3	.....	W	0.067	1.7	.....	E. Renou, Director.
Toulouse, Observatory	28.98	736.2	30.02	762.6	75.2	24	83	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	T. Hugnet Director.
Tours	29.39	746.5	30.11	764.9	63.0	17.2	76	NW	.....	.....	2	.....	9	.....	.....	0.188	3.5	.....	M. Julier Mercadier.
Versailles, Observatory	29.74	755.4	29.94	760.4	64.0	17.8	67	WNW	.....	.....	5	.....	5	.....	W	0.276	7.0	.....	Cousin-Marquet.
Villefranche-sur-Saone, N.S.	29.39	746.4	29.88	758.9	59.4	15.2	62	WSW	.....	.....	3	.....	.....	.....	.....	0.240	6.09	.....	Dr. A. Berigny, Director
SUB-SERIES.	29.31	744.4	30.00	762.1	66.6	19.2	57	NW	.....	.....	1	.....	2	.....	NW	1.307	33.2	Slightlycl'dy	Nicot, Director.
Fort de France, Martinique	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lyons Obs'y (Park Station)	29.82	757.3	29.84	758.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.55	14.	.....	L'Abbé Merchési.
Nice	29.39	746.5	29.99	761.8	66.2	19.0	50	E	.....	.....	1	.....	5	.....	WNW	1.772	45.0	Cloudy	Ch. André, Director.
Zi-Ka-Wei (near Shanghae)	.....	.....	29.78	756.5	81.7	27.6	63	SW	.....	.....	2	.....	8	.....	.....	0	0	Misty	Dr. A. Niepce, Jr.
.....	29.72	755.0	29.75	755.6	78.8	26.0	92	SE	15 4	6.9	.....	ck	10k	.....	SE	0	0	Covered	Marc Dechevrens
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand; Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:50 instead of 1:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'r 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.1	29.86	758.4	60.3	15.7	78	S			2		10	S		0.24	6.	Raining	Prof. Dr. Hoh.
Berlin	29.62	752.3	29.79	756.6	63.7	17.6	69	NW			1		10			0.307	7.8	Raining	Prof. Dr. Arndt.
Breslau	29.13	739.8	29.65	753.1	86.0	30.0	50	SSE			2		2			0	0		Royal University Observ'y.
Carlsruhe	29.48	748.7	29.90	759.4	59.7	15.4	70	SW			4		10	SW		0.441	11.2		Albert Senx.
Cassel	29.22	742.3	29.83	757.6	64.8	18.2	72	SSE			2		8	SW		0.145	3.68		Dr. H. Möhl.
Crefeld	29.57	751.0	29.73	755.1	65.3	18.5	50	SW			6		8ks			0	0		Director Lose.
Emden			29.62	752.3	62.4	16.9	71	WSW			7		8			0.299	7.6		Prof. Dr. Prestel.
Frankfort on the Main	29.48	748.8	29.84	757.9	68.0	20.0		WSW			2		10			0.417	10.6		Physical Society.
Freienwalde on the Oder	29.69	754.0	29.72	755.0	60.3	15.7	89	WNW			5		10ks	W		0.012	0.3	Raining	Dr. Assmann.
Friedrichshafen	28.58	725.9	30.01	762.3	54.7	12.6	85	W			9		10	W		0.075	1.9	Raining	M. Wilhelm.
Hamburg	29.62	752.3	29.69	754.0	64.2	17.9	64	WSW			5		10			0	0	Cloudy	Captain F. Hegemann.
Kiel	29.63	752.6	29.65	753.0	65.3	18.5	58	SW			5		10			0.032	0.81		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.64	752.8	29.72	754.8	77.9	25.5	44	SE			4		6			0	0		Prof. E. Luther
Köslin			29.78	756.4	77.9	25.5		S			4		2			0	0		H. Müller.
Leipsic Observatory	29.41	747.0	29.83	757.6	58.3	14.6	91	WSW			2		10	WSW		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.75	755.7	29.80	756.9	74.1	23.4	53	SW			1		5cs						Skalweit.
Munich (München)	28.16	715.2	30.02	762.6	55.2	12.9	77	W			7		10	W		0.157	4.0		Dr. C. Lang.
Neufahrwasser	29.68	753.8	29.69	754.2	78.6	25.9	48	SE			2		7			0	0		A. Lothes.
Posen	29.39	746.6	29.66	753.4	84.2	29.0	48	SE			5		7			0.205	5.2		Dr. Magener.
Strassburg (in Alsace)	29.41	747.0	29.95	760.7	63.5	17.5	55	WSW			4		10	W		0.714	18.13	Raining	Imp. University Observatory.
Stuttgart	28.97	735.7	29.90	759.4	56.3	13.5	85	W			2		10			0.160	3.8		Prof. Dr. Schoder.
Treves (Trier)													10n						Prof. Flesch.
Weissenburg (Bavaria)	28.43	722.0	29.92	760.0	55.6	13.1	86	W	9	4			10		W	0.472	12.0	Rain & fog	T. Hopfner.
Wustrow	29.69	754.0	29.71	754.6	61.5	16.4	76	SW			5		10s			0.008	0.2		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.9	29.85	758.2	93.4	34.1		NE			1.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.37	746.0	29.42	747.2	84.9	29.4	73	WSW				7	WSW		0	0	D. clouds	
Deesa	29.02	737.0	29.48	748.8	83.9	28.8	80	WSW	15.5	6.9		9		SW	4.20	106.7	D. clouds	
Bombay	29.63	752.6	29.67	753.5	82.0	27.8	85	WSW	25.0	11.2		10		W	0.53	13.5	Overcast	
Poona	27.82	706.6	29.67	753.7	75.3	24.1	82	WSW				8	E	WSW	0.03	0.8	D. clouds	
Lahore	28.62	726.9	29.34	745.3	85.0	29.4	83	Calm	2.1	0.9		6			0.03	0.8	D. clouds	
Belgaum	27.23	691.5	29.78	756.5	70.2	21.2	97	W	17.0	7.6		10	SW	SW	0.60	15.2	Raining	
Roorkee	28.49	723.7	29.42	747.2	80.4	26.9	77	SE	8.4	3.8		10			0.05	1.3		
Agra	29.01	736.8	29.41	747.0	86.7	30.4	62	E				10		E	0	0		
Nagpur	28.52	724.5	29.57	751.0	78.5	25.8	87	SSW	8.1	3.6		7		NE	0.30	7.6	Gloomy	
Lucknow	29.06	738.1	29.42	747.4	79.3	26.3	95	S	3.0	1.3		10			0.69	15.0	Overcast	
Allahabad	29.16	740.6	29.46	748.4	85.1	29.5	82	Calm	2.1	0.9		8			0.11	2.8	D. clouds	
Patna	29.30	745.1	29.48	748.6	88.5	28.6	84	Calm	1.1	0.5		10			1.11	28.2	Drizzling	
Hazaribagh	27.51	695.7	29.51	749.6	74.8	23.8	93	WNW	9.2	4.1		10			4.96	126.0	Thunder-storm	
Cuttack	29.54	750.2	29.62	752.3	78.0	25.6	86	SSW	6.0	2.7		10			2.28	57.9	Showery	
Calcutta (Alipore)	29.46	748.3	29.48	748.8	81.0	27.2	91	SSW	7.0	3.1		10		W	Inap.	Inap.	Overcast	
Goalpara	29.10	739.0	29.48	748.8	80.8	27.1	91	W	5.3	2.4		9		SE	0.12	3.0	D. clouds	
Chittagong	29.48	748.9	29.58	751.3	78.7	25.9	94	SSE	8.5	3.8		10			0.23	5.8	Raining	
Sibsagar	29.22	742.3	29.55	750.7	82.2	27.9	85	ENE	1.9	0.8		10	W	W	0.70	17.8	D. clouds	
Jubbulpore	28.15	715.0	29.49	749.1	82.2	27.9	73	NW	5.0	2.2		10		NNE	1.20	30.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.37	746.1	29.77	756.1	87.8	31.0	39	S	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.21	741.9	29.70	754.4	81.0	27.2	68	SE	.....	.....	2	.....	10	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.62	752.4	29.73	755.1	85.8	29.9	56	E	3.1	1.4	.....	.....	9	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.81	731.8	29.68	753.8	72.0	22.2	42	NW	10.5	4.7	.....	.....	9	WNW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.61	752.1	29.80	756.8	75 9	24.4	74	SE	13.0	5.8	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.88	708.2	29.72	754.9	71.8	22.1	70	W	.....	.....	6	.....	10	SW	.....	0.020	0.5	.....	Prof. D. C. Bruno.
Pesaro	29.68	753.9	29.73	755.1	93.0	34.2	27	SW	11.9	5.3	.....	.....	7	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.53	750.1	29.78	756.4	88.3	31.3	42	SW	.....	.....	4	.....	10	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.72	755.0	29.80	757.0	80.8	27.1	67	WSW	14.3	6.4	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.66	753.4	29.83	757.7	88.8	31.4	33	S	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.62	752.3	29.86	758.5	92.8	33.8	39	ESE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.0	29.85	758.3	95.4	35.2	60	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.62	752.3	29.80	757.0	85.5	29.7	52	SE	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. A. Facinotti.
Palermo	29.67	753.6	29.92	759.9	84.0	28.9	49	E	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.76	755.9	29.83	757.7	91.0	32.8	38	W	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.1	29.93	760.2	86.0	30.0	34	WSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.97	761.2	29.99	761.7	78.7	25.9	82	ESE	0.6	0.3	.....	.....	10s	.....	.....	0.063	1.60	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.93	760.2	72.6	22.6	87	SW	1.6	0.7	.....	.....	10cs	.....	.....	0.540	13.72	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.01	762.2	30.07	763.8	75.0	23.9	84	SSW	9.2	4.1	.....	.....	10cs	.....	.....	0	0	Clear	The Staff.
Wakayama	29.98	761.5	30.03	762.7	75.1	23.9	91	Calm	0	0	.....	0	0	.....	.....	0.015	0.38	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	635.9	30.01	762.2	60.8	16.0	73	SW	.....	.....	1	.....	8	.....	E	0.35	9.0	Cloudy	Prof. L. Perez.
Leon	24.40	619.7	29.99	761.7	66.0	18.9	79	ESE	.....	.....	1	1c	0	NW	.....	Inap.	Inap.	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.1	29.98	761.5	57.2	14.0	90	Calm	0	0	.....	.....	10n	.....	.....	0.17	4.2	Raining	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	66.2	19.0	68	Calm	.....	.....	0	1c	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	10	.....	S	0.30	7.6	Raining	Prof. M. M. Chazaro.
San Luis Potosi	29.92	759.9	29.93	760.3	80.6	27.0	90	S	.....	.....	1	9	0	E	.....	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	24.19	614.3	30.06	763.6	64.0	17.8	75	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla (Catholic Institute)	22.64	572.4	30.06	763.5	61.2	16.2	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	Prof. J. C. Castrillon.
Colima	23.39	594.0	30.15	765.8	55.2	12.9	84	E	0.9	0.4	.....	9ck	0	SW	.....	1.53	38.8	Very cloudy	Prof. P. Spina
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	29.03	762.6	29.78	756.5	75.9	24.4	90	WSW	.....	.....	1	.....	10	.....	SW	0.25	6.4	Raining	Antonio Guerra y Guerra. F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.69	754.2	29.69	754.2	63.1	17.3	.....	WSW	.....	.....	5	.....	.....	.....	.....	0.205	5.2	.....	
Groningen	29.67	754.0	29.69	754.2	59.4	15.2	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.311	7.9	.....	
Helder	29.67	753.6	29.62	752.4	59.4	15.2	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.311	7.9	.....	
Hellevoetsluis	29.58	751.2	29.58	751.2	59.5	15.3	.....	SW	.....	.....	6	.....	.....	.....	.....	0.008	0.2	.....	
Utrecht	29.63	752.7	29.63	752.7	61.9	16.6	61	WSW	.....	.....	7	.....	.....	.....	.....	0.197	5.0	.....	
.....	29.65	753.0	29.69	754.2	62.1	16.7	66	WSW	.....	.....	5	.....	8	.....	.....	0.142	3.6	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.19	741.3	29.24	742.7	62.2	16.8	81	S	12.8	5.7	.....	.....	3	.....	.....	0.315	8.0	.....	
Brönö	29.60	751.8	29.64	752.8	66.2	19.0	85	S	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.35	745.5	29.49	749.1	56.8	13.8	88	SSE	11	5	.....	.....	10	.....	.....	.....	.....	Raining	
Tromsö	29.74	755.5	29.79	756.6	51.8	11.0	75	NE	18	8	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.7	30.34	770.5	70.5	21.4	69	W	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.1	30.05	763.3	76.6	24.8	39	NW	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.6	30.19	766 8	75.0	23.9	70	SW	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.80	757.0	30.16	766.0	68.5	20.3	48	N	17.4	7.8	.....	.....	2	.....	.....	0.004	0.1	.....	The Staff.
Ponta Delgada (Azores)	30.27	768.9	30.34	770.7	72.3	22.4	82	NE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell: Height scale	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea	.....	.....	30.05	763.2	84.2	29	.....	SSW	.....	.....	2	.....	2	.....	S	3	SSW	Blue sky	H. C. e Athayde.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.01	762.2	63.5	17.5	.....	NNW	.....	.....	3	.....	8	.....	NNW	1	NNW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island	.....	.....	29.99	761.7	77.5	25.3	.....	ENE	.....	.....	2	.....	10	.....	NE	.....	.....	Overcast	A. A. A. Loureiro, F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro do Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.88	758.9	82.4	28.0	.....	ESE	.....	.....	3	.....	5	.....	ESE	2	SE	Raining. 3 hr's rain-fall	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.30	744.1	29.69	754.2	80.6	27.0	56	SSE	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.44	747.7	29.84	757.9	71.6	22.0	44	SW	2	1	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.58	751.4	29.82	757.3	66.2	19.0	55	W	4	2	.....	.....	5ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.76	756.0	29.78	756.4	61.7	16.5	69	NE	4	2	.....	.....	9n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.23	742.4	29.83	757.7	72.7	22.6	41	NW	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.9	29.91	759.7	80.8	27.1	42	WNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.14	740.1	29.67	753.7	57.2	14.0	82	NE	9	4	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.51	749.6	29.71	754.6	78.1	25.6	38	NW	18	8	.....	.....	0	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.69	754.2	29.71	754.7	58.4	11.9	93	N	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.74	723.2	29.81	757.1	82.2	27.9	41	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.73	755.1	29.65	753.0	93.0	33.9	22	WSW	18	8	.....	.....	3ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	28.85	732.8	29.30	744.1	68.5	20.3	58	WNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.01	736.9	29.27	743.5	57.4	14.1	96	ESE	4	2	.....	.....	10n	.....	.....	.....	.....	Raining	Physical Cabinet.
Ekaterinburg	28.60	723.8	29.41	747.1	64.9	18.3	51	W	18	8	.....	.....	3k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.57	751.1	29.79	756.7	85.3	29.6	39	W	9	4	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.34	719.8	29.87	758.6	66.6	19.2	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.95	735.4	29.41	747.1	80.6	27.0	49	S	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.39	746.5	29.66	753.3	69.1	31.7	76	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.59	751.5	29.73	755.1	82.8	28.2	71	S	7	3	.....	.....	3cs	.....	.....	.....	.....	Thunder-storm.	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.84	757.9	29.94	760.5	76.3	24.6	53	ESE	3.9	1.75	.....	.....	2	.....	.....	0	0	Clearing	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.4	30.15	765.8	67.3	19.6	69	NW	3.2	1.43	.....	2	7	N	.....	0.272	6.9	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6	.....	.....	61.9	16.6	59	N	9.5	4.24	.....	.....	8	.....	.....	0.039	1.0	Cloudy	Domingo Martin y Peres.
Madrid, Royal Osservatory	27.78	705.7	29.89	759.2	82.6	28.1	29	SW	12.7	5.67	.....	1	1	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.74	755.4	29.88	759.0	98.8	37.1	72	NE	4.6	2.08	.....	2	5	W	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.22	742.3	30.11	764.8	65.3	18.5	70	NW	1.8	0.8	.....	.....	7	.....	.....	0.087	2.2	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.99	761.8	30.06	763.4	80.6	27.0	81	E	3.4	1.5	.....	7ckjcs	1k	Calm	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.9	29.86	758.3	80.1	26.7	83	NW	3.4	1.5	.....	.....	9n	.....	W	0.362	9.2	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.8	30.09	764.3	73.6	23.1	68	WNW	15.9	7.1	.....	0	5	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.98	761.4	30.07	763.7	84.6	29.2	72	E	9.6	4.31	.....	3c	2k	E	E	0.10	0.25	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.86	758.5	29.90	759.5	66.9	19.4	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.80	757.0	29.85	758.3	63.0	17.2	35	SE	.....	.....	6	.....	2	.....	.....	0	0	.....	
Hernosand	29.78	756.3	29.83	757.6	64.8	18.2	73	ESE	.....	.....	2	.....	5	.....	.....	0.012	0.3	.....	
Stockholm	29.59	751.6	29.77	756.1	63.7	17.6	67	SE	.....	.....	4	.....	8	.....	.....	0.047	1.2	.....	
Wisby	29.67	753.5	29.72	755.0	66.6	19.2	48	SSE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.67	753.5	29.75	755.7	62.6	17.0	65	SSE	10.1	4.5	.....	.....	10	SW	SE	0.275	6.98	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstierna.
.....																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			
Zurich	28.39	721.1	30.04	763.0	50.4	10.2	91	S	.....	.....	2	.....	10	.....	.....	0.394	10.0	Covered....	The Observatory.
.....																			The Observatory.
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, — Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.6	77.4	25.2	63	N	12	5.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	762.1	82.8	33.5	.....	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.4	90.7	32.6	55	SW	.....	.....	3	.....	1s	.....	SW	0	0	D. clouds....	Prof. C. V. A. Van Dyck.
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.04	763.0	30.10	764.5	67	18.9	91	SW	2	0.9	.....	5k	5ks	SW	SW	0	0	Fair.....	G. A. Bain.
Charlottetown, P. E. Island	30.09	764.3	30.13	765.3	67	18.9	87	S	6	2.7	.....	.....	8s	.....	SE	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.00	762.0	30.18	766.6	65.0	18.3	72	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Smith, M. A.
Dalhousie, N. B	29.90	759.4	30.06	763.5	58	14.4	82	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.96	761.0	29.98	761.5	55	12.8	87	W	20	8.9	.....	0	Haze	.....	Calm	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.13	765.3	64.5	18.1	73	SE	2	0.9	.....	ck	0	.....	.....	0	0	Fine.....	Prof. Harrison.
*Fort Garry, Manitoba	29.95	757.9	29.84	757.9	62	16.7	83	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	29.08	738.6	30.14	765.5	72	22.2	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	30.04	763.0	30.15	765.8	58	14.4	80	SE	1	0.4	.....	2ck	0	N	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.82	757.4	30.18	766.6	66.7	19.3	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.75	755.6	30.08	764.0	67	19.4	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	30.09	764.3	30.13	765.3	49.6	9.8	96	E	5	2.2	.....	.....	10n	.....	.....	0	0	Foggy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.95	760.7	30.14	765.5	67	19.4	68	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.45	748.0	30.11	764.8	72	22.2	62	SW	8	3.6	.....	2ck	0	SW	.....	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.11	764.8	73.7	23.2	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.49	749.0	30.16	766.1	67	19.4	89	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	30.02	762.5	30.07	763.8	56	13.3	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Clear.....	Peter Grant.
Port Stanley, Ontario	29.53	750.0	30.15	765.8	60	20.6	82	E	1	0.4	.....	5k	Haze	W	.....	0	0	Fine.....	M. Payne.
*Quebec, Quebec	29.81	757.2	30.13	765.3	62	16.7	83	NW	.....	.....	1	0	0	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.66	753.4	30.10	764.5	66	15.6	82	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	W. H. McIntyre.
St. Andrews, N. B	30.08	764.0	30.13	765.3	57	13.9	81	Calm	.....	.....	0	.....	8ks	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.97	761.2	30.14	765.5	60	15.6	76	SW	4	1.8	.....	0	0ck	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.10	764.5	73	22.8	66	SW	11	4.9	.....	0	0	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.32	744.7	30.08	764.0	64	17.8	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	R. J. Cole.
Stratford, Ontario	28.89	738.8	30.13	765.3	67.1	19.5	82	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.14	765.5	50	10.0	93	NW	2	0.9	.....	.....	10n	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.79	756.7	30.17	766.3	67	19.4	75	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.04	763.0	30.14	765.5	60.0	15.6	88	E	0	0	.....	c	3s	.....	.....	0	0	Fair.....	Prof. John E. Oram.
Woodstock	29.12	739.6	30.13	765.3	72.8	22.7	70	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.94	760.5	30.10	764.5	44.0	6.7	100	NE	.....	.....	.....	10k?	10s?	.....	.....	0.06	1.5	Cloudy.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.02	762.5	30.25	768.3	67	19.4	64	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.43	747.5	30.06	763.5	66	18.9	79	Calm	0	0	.....	.....	8s	.....	W	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	39	3.9	100	W	..	.....	4	.....	10n	.....	NW	0.42	10.7	Cloudy	
Atlanta, Georgia	29.12	739.6	30.25	768.3	70	21.1	71	E	9	4.0	.....	6	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.27	768.8	30.28	769.1	68	20.0	84	SW	6	2.7	.....	2c	Haze	Calm	Calm	0	0	Clear	
Augusta, Georgia	30.09	764.3	30.28	769.1	76	24.4	64	NE	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	30.28	769.1	30.32	770.1	71	21.7	62	SW	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear	
Barnegat, New Jersey	30.27	768.8	30.29	769.4	74	23.3	68	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.19	716.0	30.05	763.3	60	15.6	82	E	2	0.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
Boerne, Texas	28.51	724.1	29.76	755.9	77	25.0	73	S	7	3.1	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.10	688.3	30.06	763.5	49	9.4	64	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.07	763 8	30.32	767.6	71	21.7	58	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.75	730.2	29.73	755.1	80	26.7	70	SE	10	4.5	.....	0	8ks	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.92	734.6	29.88	758.9	59	15.0	88	NW	2	0.9	.....	8c	0	W	.....	0.02	0.5	Fair	
Brownsville, Texas	29.81	757.9	29.88	758.9	86	30.0	72	E	2	0.9	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.48	748.8	30.15	765.8	71	21.7	66	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	70	21.1	36	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.92	760.0	30.20	767.1	66	18.9	64	S	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cairo, Illinois	29.78	756.4	30.16	766.1	81	27.2	59	S	6	2.7	.....	2ck	0	SW	.....	0	0	Fair	
Campo, California	27.32	693.9	29.89	759.2	34	0.6	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.31	769.9	30.32	770.1	75	23.9	64	NE	8	3.6	.....	Haze	1ks	.....	Calm	0	0	Hazy	
Cape Henry, Virginia	30.32	770.1	30.34	770.6	69	20.6	85	SW	2	0.9	.....	1k	1s	SE	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.29	769.4	30.30	769.6	76	24.4	45	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.28	769.1	30.31	769.9	67	19.4	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.15	740.4	29.82	757.4	82	27.8	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.20	767.1	30.26	768.6	78	25.6	61	E	7	3.1	.....	2k	0	E	.....	0	0	Fair	
Charlotte, North Carolina	29.47	748.5	30.27	768.8	72	22.2	67	N	2	0.9	.....	10cs;k	0	Calm	SW	0	0	Cloudy	
Chattanooga, Tennessee	29.50	749.3	30.27	768.8	78	25.6	50	SE	2	0.9	.....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	59	15.0	82	SE	1	0.4	.....	.....	10s	.....	SE	0.26	6.6	Threatening	
Chicago, Illinois	29.40	746.7	30.06	763.5	76	24.4	64	SW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.59	751.6	30.21	767.3	76	24.4	64	SE	5	2.2	.....	6k;ck	0	SE;SW	.....	0	0	Fair	
Cleveland, Ohio	29.48	748.8	30.17	766.3	73	22.8	67	E	6	2.7	.....	2k	Sm'e	SW	Calm	0	0	Fair	
Coleman City, Texas	28.13	714.5	29.70	754.4	79	26.1	62	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.38	746.2	30.19	766.8	77	25.0	61	S	5	2.2	.....	5k	0	S	.....	0	0	Fair	
Concho, Texas	28.02	711.7	29.61	752.1	77	25.0	69	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.51	749.5	29.96	761.0	78	25.6	82	S	5	2.2	.....	0	5ks	.....	S	0	0	Fair	
Davenport, Iowa	29.41	747.0	30.02	762.5	73	22.8	72	SW	2	0.9	.....	8cs	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.47	646.9	.....	.....	54	12.2	87	E	2	0.9	.....	5c	2s	Calm	Calm	0.10	2.5	Fair	
Decatur, Texas	28.78	731.0	29.90	759.4	78	25.6	73	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.19	741.4	29.94	760.5	77	25.0	86	SE	7	3.1	.....	Haze	Haze	.....	Calm	0	0	Hazy	
Denver, Colorado	24.72	627.9	29.94	760.5	64	17.8	94	N	4	1.8	.....	2k	8s	Calm	Calm	0	0	Cloudy	
Des Moines, Iowa	29.10	739.1	29.94	760.5	71	21.7	85	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Detroit, Michigan	29.48	748.8	30.12	765.0	73	22.8	76	SW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Dodge City, Kansas	27.26	692.4	29.40	746.7	74	23.3	63	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.32	744.7	29.99	761.7	73	22.8	76	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.24	742.7	29.88	758.9	71	21.7	80	Calm	0	0	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	
Eagle Pass, Texa	29.11	739.4	29.79	756.7	82	27.8	71	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.07	763.8	30.14	765.5	55	12.8	81	Calm	0	0	.....	10ck	0	N	.....	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	79	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.16	664.4	.....	.....	75	23.9	44	W	4	1.8	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Erie, Pennsylvania	29.48	748.8	30.16	766.1	77	25.0	61	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.34	745.2	29.97	761.2	72	22.2	76	SW	7	3.1	.....	5k	0	SW	.....	0	0	Fair	
Florence, Arizona	28.37	720.6	29.97	761.2	85	29.4	15	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27 97	710.4	.....	.....	50	10.0	86	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Davis, Texas	25.18	639.6	30.14	765.5	75	23.9	44	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.96	761.0	80	26.7	66	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.19	639.8	29.99	761.7	65	18.3	14	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.67	728 2	29.88	758.9	77	25.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.43	696.7	.....	.....	67	13.9	87	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.69	703.3	29.61	749.5	74	23.3	76	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.75	756.4	75	23.9	66	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.16	715.3	.....	.....	56	13.3	80	SW	2	0.9	.....	.....	8s	.....	Calm	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	59	15.0	23	NW	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.20	716.3	29.68	753.9	80	26.7	59	S	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	83	28.3	79	SE	10	4.5	.....	2ck	2ks	Calm	SE	0	0	Fair	
Graham, Texas	28.85	732.8	29.85	758.2	78	25.6	69	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.43	747.5	30.05	763.3	78	25.6	65	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.00	736.6	29.89	759.2	74	23.3	81	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.38	746.2	30.12	765.0	78	25.6	61	S	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Indianola, Texas	29.94	760.5	29.96	761.0	84	28.9	79	S	7	3.1	.....	5c	2ks	Calm	S	0	0	Fair	
Jacksboro, Texas	28.51	731.8	29.88	758.9	79	26.1	62	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.19	766 8	30.21	767.3	75	23.9	90	E	4	1.8	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	
Keokuk, Iowa	29.39	746.5	29.97	761.2	79	26.1	62	S	5	2.2	.....	6c;k	0	Calm; W	.....	0	0	Fair	
Key West, Florida	30.06	763.5	30.09	764.3	81	27.2	83	E	10	4.5	.....	8k	0	E	.....	0	0	Cloudy	
Kittyhawk, North Carolina	30.30	769.6	30.32	770.1	72	22.2	71	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.31	744.5	30.29	769.4	72.5	22.5	63	E	2	0.9	.....	8k	Haze	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.21	741.9	29.91	759.7	74	23.3	76	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	60	15.6	34	Calm	0	0	.....	2c	0	SW	.....	0	0	Clear	
Laredo, Texas	29.48	748.8	29.80	756.9	82	27.8	52	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.13	739.9	29.94	760.5	70	21.1	85	S	5	2.2	.....	2cs	Haze	.....	.....	1.51	38.4	Clear	
Little Rock, Arkansas	29.76	755.9	30.10	764.5	78	25.6	82	SE	2	0.9	.....	3k	0	SE	.....	0	0	Cloudy	
Los Angeles, California	29.09	761.8	29.93	760.2	62.0	16.7	77	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.65	753.1	30.19	766.8	78	25.6	67	SE	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.64	752.8	30.31	769.9	73	22.8	90	SE	1	0.4	.....	0	Sme'	.....	Calm	0	0	Smoky	
Madison, Wisconsin	29.03	737.3	29.98	761.5	70	21.1	75	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Marquette, Michigan	29.25	742.9	29.92	760.0	74	23.3	59	SW	8	3.6	.....	10k	0	SW	.....	0	0	Cloudy	
Mason, Texas	28.32	719.3	30.00	762.0	77	25.0	73	SE	1	0.4	.....	0	2s	.....	S	0	0	Fair	
Memphis, Tennessee	29.80	756.9	30.13	765.3	78	25.6	69	SE	6	2.7	.....	5ck	0	Calm	.....	0.12	3.0	Fair	
Milwaukee, Wisconsin	29.31	744.5	30.01	762.2	71	21.7	71	SW	4	1.8	.....	2c	2s	SW	Calm	0	0	Fair	
Mobile, Alabama	30.09	764.3	30.14	765.5	78.5	25.8	84	E	10	4.5	.....	2k	5s	SE	SE	0.09	2.3	Fair	
Montgomery, Alabama	30.00	762.0	30.22	767.6	78	25.6	57	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.27	743.4	30.22	767.6	79	26.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.	24.09	611.9	30.45	773.4	48	8.9	49	N	18	8.0	.....	0	2s	.....	N	0	0	Clear.....	
Nashville, Tennessee	29.69	754.1	30.20	767.1	80	26.7	59	E	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
New Haven, Connecticut	30.14	765.5	30.26	768.6	75	23.9	60	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	30.18	766.6	30.23	767.8	73	22.8	63	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
New Orleans, Louisiana	30.01	762.2	30.07	763.8	82	27.8	83	E	6	2.7	.....	1c	1ks	Calm	E	0.08	2.0	Clear.....	
Newport, Rhode Island	30.21	767.3	30.26	768.6	69	20.6	65	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York	30.08	764.0	30.26	768.6	67	19.4	68	SW	6	2.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
Norfolk, Virginia	30.26	769.1	30.34	770.6	77	25.0	65	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.92	683 8	29.35	745.5	67	19.4	89	E	24	10.7	.....	.....	10s	.....	E	0	0	Cloudy.....	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	54.0	12.2	87	SE	3	1.3	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Omaha, Nebraska	28.78	731.0	29 82	757.4	72	22.2	90	SE	16	7.2	.....	.....	10n	.....	SW	0.16	3.8	Light rain...	
Oswego, New York	29.88	758.9	30.19	766.8	66	18.9	74	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Pembina, Dakota	29.00	736.6	29.80	756.9	58	14.4	88	W	8	3.6	.....	5k	0	W	.....	0.36	9.1	Fair.....	
Philadelphia, Pa	30.24	768.1	30.29	769.4	69	20.6	70	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.63	727.2	30.37	771.4	67	19.4	29	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	33	0.6	42	SW	40	17.9	.....	0	0	.....	.....	0	0	Clear.....	
Ploche, Nevada	.....	.....	.....	.....	56	13.3	29	NW	4	1.8	.....	2k	2s	W	Calm	0	0	Fair.....	
Pittsburg, Pennsylvania	29.43	747.5	30.22	767.6	67	19.4	84	E	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear.....	
Port Huron, Michigan	29.48	748.8	30.12	765.0	71	21.7	75	S	6	2.7	.....	10ck	0	W	.....	0	0	Cloudy.....	
Portland, Maine	30.14	765.5	30.19	766.8	65	18.3	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon	30.02	762.5	30.09	764.3	55.5	13.1	87	N	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy.....	
Prescott, Arizona	24.70	627.4	30.06	763.5	49	9.4	44	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	77	25.0	86	NE	9	4.0	.....	10k	0	NE	.....	0.18	4.6	Cloudy.....	
Red Bluff, California	29.49	749.0	29.84	757.9	68	20.0	38	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.71	754.6	29.92	760.0	83	28.3	75	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.67	753.1	30.17	766.3	70	21.1	61	SW	7	3.1	.....	0	Sm'e	.....	.....	0	0	Clear.....	
Roseburg, Oregon	29.63	752.0	30.10	764.5	50	10.0	86	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.....	
Sacramento, California	29.77	756.1	29.86	758.4	55	12.8	84	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	30.16	765.8	30.16	766.1	77	25.0	82	E	12	5.4	.....	1cs	5s	Calm	E	0	0	Fair.....	
St. Marks, Florida	29.54	750.3	30.09	764.3	74	23.3	72	SE	7	3.1	.....	1ck	Haze	SW	.....	0	0	Clear.....	
St. Paul, Minnesota	29.07	738.4	29.85	758.2	71	21.7	90	SW	4	1.8	.....	.....	10s	.....	W	0.18	4.6	Cloudy.....	
Salt Lake City, Utah	25.50	647.7	29.83	757.7	63	17.2	47	Calm	0	0	.....	8k	0	Calm	.....	0	0	Cloudy.....	
San Antonio, Texas	29.25	742.9	29.80	756.9	82	27.8	79	SE	4	1.8	.....	5k	0	SE	.....	0	0	Fair.....	
San Diego, California	29.90	759.4	29.97	761.2	60	15.6	71	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.52	749.8	30.16	766.1	74	23.3	68	SW	12	5.4	.....	1c	Sm'e	.....	Calm	0	0	Clear.....	
Sandy Hook, New Jersey	30.24	768.1	30.27	768.8	75	23.9	64	W	0	4.0	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California	29.85	758.2	29.92	760.0	53	11.7	86	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Santa Fé, New Mexico	23.29	591.6	29.83	757.7	58	14.4	22	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.17	766.3	30.26	768.6	79	26.1	74	NE	6	2.7	.....	2k	0	E	.....	0	0	Fair.....	
Shreveport, Louisiana	29.83	757.7	30.04	763.0	80	26.7	78	SE	8	3.6	.....	0	5ks	.....	SE	0	0	Fair.....	
Silver City, New Mexico	24.28	616.7	30.28	769.1	60	15.6	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.27	768.8	30.31	769.9	76	24.4	66	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.33	643.4	29.39	746.5	68	20.0	42	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair.....	
Springfield, Ill	29.46	748.3	30.14	765.5	75	23.9	68	S	3	1.3	.....	3ck	0	SW	.....	0	0	Fair.....	
Springfield, Massachusetts	30.12	765.0	30.25	768.3	68	20.0	70	SW	2	0.9	.....	0	Fog	.....	.....	0	0	Foggy.....	
Stockton, Texas	26.86	682.2	29.86	758.4	76	24.4	27	SE	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.17	766.3	30.22	767.6	66	18.9	79	W	4	1.8	.....	0	Haze	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.47	748.5	30.12	765.0	74	23.3	68	SW	2	0.9	.....	8ck	0	W	.....	0	0	Fair.....	
Tucson, Arizona	27.42	696.5	29.97	761.2	69	20.6	15	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.61	752.1	30.09	764.3	59.0	15.0	76	E	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
Uvalde, Texas	28.99	736.3	29.77	756.1	80	26.7	74	E	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Vicksburg, Mississippi	29.88	758.9	30.18	766.3	78	25.6	82	SE	3	3.6	.....	0	0	.....	.....	0.18	4.6	Clear.....	
Virginia City, Montana	24.26	616.2	29.74	755.4	52	11.1	54	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.47	748.5	29.84	757.9	67.5	14.2	75	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C	30.18	766.0	30.29	769.4	73	22.8	59	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	51	10.6	40	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	30.22	767.6	30.30	769.6	70	21.1	75	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	50	10.0	32	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	30.20	767.1	30.24	768.1	69	20.6	75	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota	28.64	727.4	29.86	758.4	69	20.6	95	Calm	0	0	.....	.....	10s	.....	Calm	1.39	35.3	Cloudy.....	
Yuma, Arizona	29.61	752.1	29.77	756.1	63	17.2	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	81	27.2	78	SE	2.4	1.1	.....	8c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.21	640.3	.....	.....	69.0	20.6	76	Calm	.....	.....	0	5cs	4ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I	29.93	760.2	30.01	762.2	80	26.7	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	87	SE	.....	.....	2	5k	5ks	SE	.....	0.030	0.76	½ clouded!..	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,824 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,488 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,293 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,8[illegible] (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 85.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fe, 6.54 in., or 166.1 mm.: Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡	.....	.....	80	26.7	87	NE	5	2.2	.....	.....	8	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	30.05‡	763.3‡	.....	.....	76	24.4	84	SW	.....	.....	3	1c	.....	.....	SW	0	0	.....	.....	Clear	
Adams. N. 21° 05′, W. 105° 55′	29.90‡	759.4‡	.....	.....	79	26.1	95	WNW	.....	.....	3	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Alliance. Southampton, Eng	29.68‡	753.9‡	.....	.....	59	15.0	76	WNW	.....	.....	5	.....	7	.....	NW	.....	.....	.....	.....	Squally	
Colorado. New York, N. Y	30.23‡	767.8‡	.....	.....	69	20.6	70	SW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constellation. Halifax, Novia Scotia	30.15‡	765.8‡	.....	.....	56.7	13.7	75	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution. League Isl. Navy Yard, Pa.	30.30‡	769.6‡	.....	.....	70	21.1	75	W	.....	.....	2	.....	2	.....	W	.....	.....	.....	.....	Clear	
Enterprise, Christiania, Norway	29.55‡	750.6‡	.....	.....	59	15.0	100	ESE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Raining	
Franklin. Norfolk, Va	30.33‡	770.4‡	.....	.....	73	22.8	76	SE	3.6	1.6	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Hartford. Montevideo, Uruguay	30.34‡	770.6‡	.....	.....	55	12.8	74	ENE	5	2.2	.....	.....	2	.....	E	0	0	.....	.....	Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.92‡	760.0‡	.....	.....	60	15.6	78	SSW	4	1.8	.....	.....	5	.....	SSW	.....	.....	.....	.....	Clear?	
Kearsarge, New York, N.Y.	30.20‡	767.1‡	.....	.....	69	20.6	75	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Michigan, Erie, Pa	30.12‡	765.0‡	.....	.....	82.5	28.1	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Shanghai, China	29.74‡	755.4‡	.....	.....	80	26.7	87	ESE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	30.07‡	763.8‡	.....	.....	76	24.4	??	SSW	.....	.....	2	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.26‡	768.6‡	.....	.....	77	25.0	82	ENE	20	8.9	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Onward, Callao, Peru	30.21‡	767.3‡	.....	.....	61	16.1	88	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.75‡	755.6‡	.....	.....	78	25.6	100	SE	.....	.....	4	.....	8	.....	SE	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	71	21.7	85	SW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 17° 35′, W. 73° 40′	30.03‡	762.7‡	.....	.....	63	17.2	78	SSW	1	0.4	.....	.....	10	.....	.....	0	0	Smooth	SW	Overcast	
Portsmouth. Newport, Rhode Island.	30.25‡	768.3‡	.....	.....	66	18.9	64	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Powhatan, New York, N. Y.	30.24‡	768.1‡	.....	.....	68	20.0	70	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Constantinople, Turkey	29.89‡	759.2‡	.....	.....	78	25.6	65	NE	.....	.....	6	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.68‡	753.9‡	.....	.....	84	28.9	79	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	Calm	Clear	
Richmond, N. 34° 35′, E. 138° 47′	30.01‡	762.2‡	.....	.....	80	26.7	87	E	.....	.....	0-1	.....	5	.....	S	0	0	Long	S	Fair	
Rio Bravo, Brownsville, Texas	29.89‡	759.2‡	.....	.....	82	27.8	96	SE	.....	.....	1	.....	2	.....	SE	2.28	57.9	.....	.....	Fair	
Santee, Annapolis, Md.	30.31‡	769.9‡	.....	.....	72	22.2	76	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Saratoga. Murray, Bermuda, N. Atlan.	30.16‡	766.1‡	.....	.....	74	23.3	86	NE	.....	.....	5	.....	5	.....	Calm	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.23‡	767.8‡	.....	.....	69	20.6	85	SW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Spit Head, Eng.	29.65‡	753.1‡	.....	.....	60	15.6	71	W	.....	.....	4-6	.....	5	.....	SW	0	0	Heavy	W	Fair	
Tuscarora, Mare Island Navy Yard, Cal	29.90‡	759.4‡	.....	.....	57	13.9	94	SW	.....	.....	4	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	30.27‡	768.8‡	.....	.....	68	20.0	79	W	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass	30.22‡	767.6‡	.....	.....	69	20.6	61	W	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Wyoming, Trieste, Austria	29.73‡	755.1‡	.....	.....	82	27.8	67	SW	.....	.....	4	.....	5	.....	SW	.....	.....	Mod'ate	SW	Fair	
Wachusett, 65 m'ls above Vicksburg, Miss	30.00‡	762.0‡	.....	.....	79	26.1	86	NE	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S.S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio Capt. Maury																			L. B. Walls.
S. S. Colima, La Liberated, San Salvador, Con. Am.†		29.95‡	760.7‡	78	25.6	95	ENE			2		8		Calm	0.30 in. or 7.6 mm	Small ground.	SE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, N. 42° 06', W. 124° 46'.†		30.08‡	764.0‡	55	12.8		NW			6		4		NW	0	Heavy	NW	Foggy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 22° 13', E. 114° 43'....†		29.67‡	753.6‡	86	30.0		Var.			2		ks		SW	Slight	Smooth		Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 38° 32', E. 158° 06'.....		29.80‡	756.9‡	63	17.2	94	W			4–5		10n				2	W	Drizzling	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.63‡	752.0‡				SSW			5		5		WNW				Cloudy†	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng.		29.45‡	748.0‡	59	15.0	88	W			7		8		NW	Heavy			Cloudy	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N 29° 40', W 86° 53'		30.13‡	65.3‡	82	27.8	87	E	10	4.5	..		8k		E	0.09 in. or 2.3 mm	Short		Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.10‡	764.5‡				ENE			4		0			0				
Schooner Harry and Fred.																			N. B. Foss.
W. D. Hilton																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. N. B. Horner.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt P. Sandelin.
Schooner Henry Whitney																			L. Dunbar.
																			Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

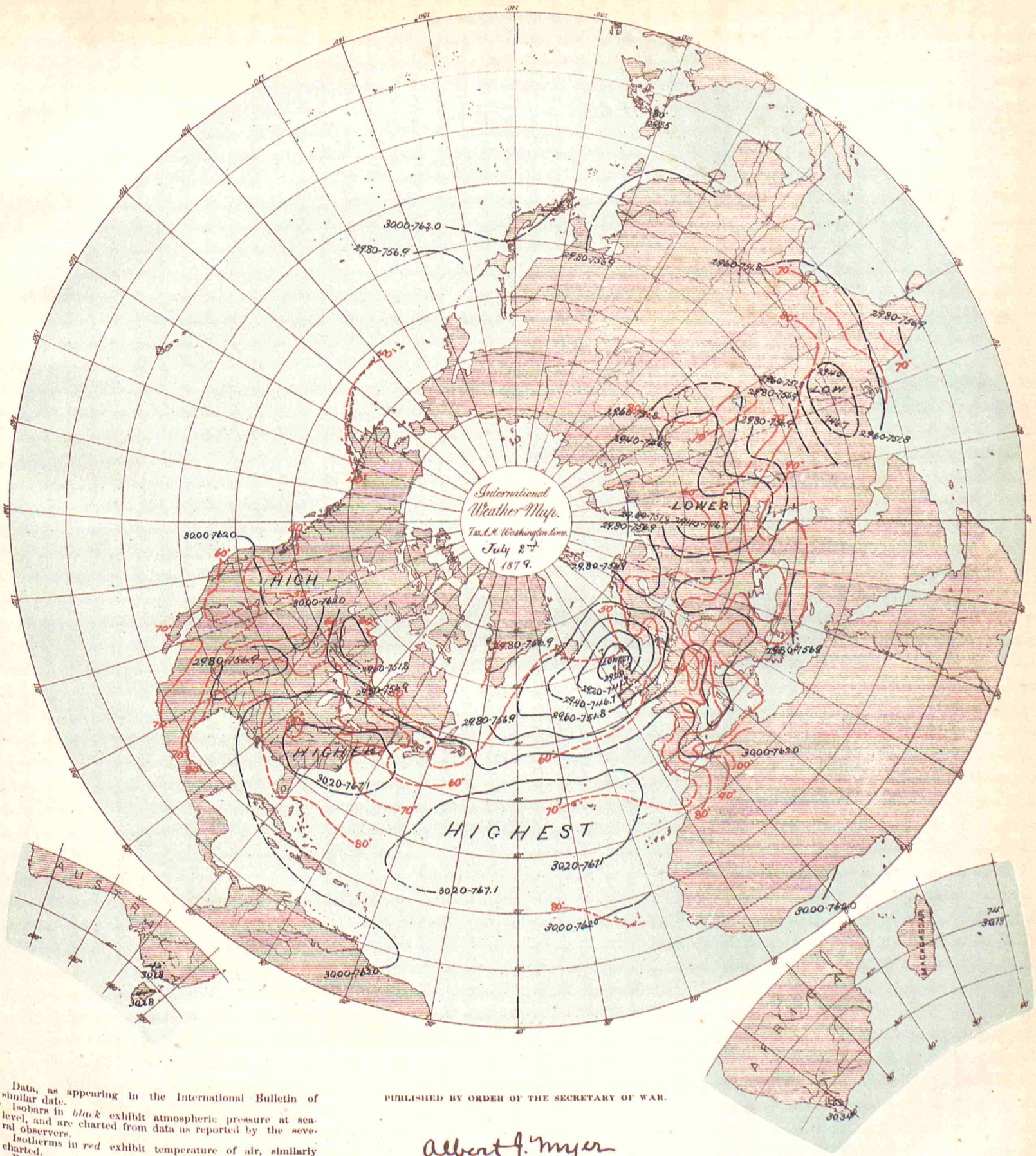
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 3, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Mogador, Marocco			30.09	764.3	66.7	19.3		NE			2		2			0	0	Fair	
Nemours			30.03	762.8	82.4	28.0	71	N			2		0			0	0	Clear	Kesxuche.
Algiers			29.99	761.8	78.1	25.6	77	NE			2		0			0	0	Clear.	Tourilliere.
La Calle			30.02	762.6	76.5	24.7	80	NNE			4		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.08	763.9															Gau.
Saida			30.02	762.5	91.6	33.1	10	N			3		0			0	0	Clear	Herbin.
Tebessa			30.01	762.3	92.7	33.7	23	NW			4		0			0	0	Clear	Watrin.
Geriville			30.03	762.7	85.6	29.8	36	S			5		0			0	0	Clear	Brugniaux.
Laghouat			29.96	761.0	97.9	36.6	25	W			3		0			0	0	Clear	Bertrand.
Biskra			29.87	758.7	100.8	38.2	36	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Agram	29.36	745.7	29.89	759.1	72.1	22.3	50	SE			2		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.10	739.2	29.85	758.2	65.5	18.6	62	W			2		10			0.048	1.1		Dr. Wierzbiski.
Eperies	28.95	735.2	29.79	756.7	67.5	19.7	68	Calm			0		10ks		S	0.071	1.80		Julius Mikolik.
Gratz	28.70	729.0	29.92	759.9	65.7	18.7	63	SW			1		8			0.728	18.5		Andreas Rospini.
Hermannstadt	28.35	720.0	29.67	753.5	84.4	29.1	46	NW			3		10			0.171	4.35		Prof. A. Gottschling.
Kremsmünster	28.54	724.8	29.83	757.7	67.6	19.8	48	NNW			2		2			0.110	2.8		Prof. C. Wagner.
Lemberg	28.80	731.5	29.76	755.8	64.8	18.2	72	NW			3		10			0.150	3.8		Dr. T Stanecki.
Pola	29.72	755.0	29.83	757.7	83.1	28.4	45	SSW			1		1			0	0		I.R.HydrographicOffice.
Szathmar	29.36	745.6	29.80	756.8	77.4	25.2	60	SW			4		7			0	0		Julius Csics, S. J.
Szegedin	29.54	750.4	29.81	757.2	72.5	22.5	61	E			3		2			0	0		Karl Stancel.
Trieste	29.75	755.7	29.85	758.3	79.5	26.4	66	ESE			1		4			Inap.	Inap.	Fair	P. Busin.
Vienna	29.18	741.2	29.92	760.0	69.4	20.8	49	WNW			1		0			0	0		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.08	737.3	29.12	739.6	*55.3	12.9	.....	SSW	23	10.3	.....	.....	9	.....	.....	0.100	2.54	Squally.....	W. Boswell.
Ardrossan	29.22	742.2	29.24	742.7	57	13.9	.....	WSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.14	740.1	29.36	745.7	54.7	12.6	.....	W	9	4.0	.....	.....	7	.....	.....	.....	.....	Squally.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.41	747.0	57.1	13.9	.....	W	20	8.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	John Hartnup.
Bolton (Sharples)	.....	.....	29.38	746.2	57.8	14.3	.....	WSW	18	8.0	.....	.....	4	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.02	737.1	29.42	747.3	58.7	14.8	.....	NW	.....	.....	3	.....	8	.....	.....	0.13	3.3	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.99	761.7	30.02	762.5	84	28.9	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.33	745.0	29.42	747.3	55.0	12.8	.....	S	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	H. Todd.
Cardington	.....	.....	29.40	746.7	56.0	14.4	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.29	744.0	29.41	747.0	59.0	15.0	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper R. E.
Donaghadee	29.28	743.7	29.33	745.0	60	15.6	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.44	747.8	29.46	748.3	56	13.3	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	J. Costello.
Falmouth, Observatory	29.34	745.2	29.57	751.1	57.5	14.2	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier (Natal)	27.80	706.1	30.08	764.0	61.(	16.1	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.83	757.7	30.06	763.5	79	26.1	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.40	746.7	59	15.0	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.94	760.5	29.99	761.7	72.9	22.7	.....	W	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.02	737.1	29.23	742.4	56.3	13.5	.....	WSW	.....	.....	8	.....	8	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.47	748.5	29.47	748.5	57	13.9	.....	S	.....	.....	3	.....	6	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.23	742.4	29.40	746.7	57.2	14.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.25	742.9	29.47	748.5	59.5	15.3	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.52	749.8	29.64	752.8	60	15.6	.....	N	.....	.....	4	.....	4k	.....	.....	0.53	13.5	Fine.....	M. P. Moyle.
Holyhead	29.42	747.3	29.43	747.5	57	13.9	.....	SW	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.26	743.2	29.56	750.8	59.0	15.0	.....	WSW	.....	.....	6	.....	9	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	29.37	746.0	29.40	746.7	58.0	14.4	.....	E	4	1.8	.....	.....	10	.....	.....	.....	.....	Gloomy	The Met'g'l Office.
Leicester, Museum.	29.17	740.9	29.41	747.0	60.4	15.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.85	758.2	29.92	760.0	86.4	30.2	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	28.93	734.8	29.02	737.1	59	15.0	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.07	763.8	71.2	21.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	C. S. Duncombe.
Nottingham, Observatory	29.24	742.7	29.43	747.5	63.7	17.6	.....	SSW	.....	.....	3	.....	10k	.....	W	0.059	1.50	Overcast ...	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.91	734.3	29.42	747.3	59.4	15.2	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.34	745.2	57	13.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.44	747.8	29.62	749.8	59.2	15.1	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Prince Town	28.09	713.5	29.54	750.3	61.5	16.8	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	W. H. Tooker.
*Roche's Point	29.48	748.8	29.59	751.6	57	13.9	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
Saint Ann's Head	29.34	745.2	29.50	749.3	54	12.2	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.95	760.7	56.2	13.4	.....	SSW	14	6.3	.....	.....	10	.....	.....	.....	.....	Showery.....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.66	753.4	29.72	754.9	96.3	35.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	29.15	740.4	29.42	747.3	61.9	16.6	.....	WSW	.....	.....	1	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.31	744.5	29.34	745.2	56.6	13.7	74	SW	.....	.....	5	.....	6	.....	.....	0.026	0.66	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.30	744.2	58.4	14.7	.....	SW	19	8.5	.....	.....	6	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Straifield, Turgiss	29.26	743.2	29.48	748.8	55.7	13.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.60	751.8	29.62	752.3	59	15.0	.....	NW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	W.Newcombe.
Valencia, Observatory	29.55	750.6	29.57	751.1	54.1	12.3	.....	W	26	11.6	.....	.....	8	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.38	771.6	30.42	772.7	61.0	16.1	54	S	5.0	2.2	.....	0	1	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.02	762.5	44	6.7	72	NW	.....	.....	1	.....	10k	.....	.....	0	0	Covered.....	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.26	743.2	59.1	15.1	.....	W	.....	.....	6	.....	8k	.....	.....	0	0	Cloudy.....	Andrew Gibb
Mauritius, Observatory	29.97	761.2	30.16	766.0	71.2	21.8	67	E	6.0	2.7	.....	0	8	.....	S	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	30.01	762.2	30.10	764.5	38.6	3.7	92	S	4	1.8	.....	.....	0	.....	.....	0	0	Foggy	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.01	736.8	55	12.8	.....	WNW	.....	.....	6	.....	10	.....	.....	1.4	3.6	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	28.97	735.8	49	9.4	.....	S	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30′. E. 28° 50′	.....	.....	29.77‡	756.1‡	73	22.8	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Misty.....	Capt.W. J. L. Wharton.
Agnes Wilson, N. 32° 20′, W. 72° 32′	.....	.....	30.23	767.8	78	25.6	ENE	.....	.....	3	.....	3	.....	.....	3	E.SE	D. clouds....	Capt. H. W. Dyke.
Astarte, N. 34° 10′, W. 39° 00′ *	.....	.....	30.38‡	771.6‡	77.5	25.3	ESE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	Capt. Parson.
British Peer, N. 50° 25′, W. 29° 10′	.....	.....	30.20‡	767.1‡	58	11.7	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	Capt. Raymond.
Theophane, S. 35° 50′, E. 24° 10′	.....	.....	30.27‡	768.8‡	.....	.....	WSW	.....	.....	6	.....	6	.....	.....	.....	.....	Showery.....	Capt. Greig.
S. S. Amanda.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.28	666.2	29.95	760.7	67.1	19.5	97	SE			2	10cs				0.1	2.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.57	751.0	29.61	752.2	63.0	17.2	58	SW			4		7						
Fanöe	29.53	750.0	29.55	750.5	59.0	15.0	74	WSW			4		3						
Godthaab (Greenland)	29.58	751.2	29.62	752.3	44.6	7.0	71	Calm			0		9						
Stykkisholm (Iceland)	29.53	750.0	29.57	751.1	45.1	7.3	99	NE			8		5						
Thorshavn (Faröe)	28.90	734.0	28.93	734.9	50.0	10.0	95	NE			2		10						
Vestervig	29.41	746.9	29.52	749.7	59.2	15.1	87	SW			4		2?					Rain & fog	
																		Thunder-storm P	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.16	740.6	29.71	754.6	63.0	17.2	90	SW			3		8		SW	0.268	6.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.48	748.9	29.59	751.6	65.1	18.4	74	S			1		10			0.134	3.4	Covered	Bouvallet, Director.
Arras, Engin'r School	29.35	745.6	29.61	752.0	59.9	15.5	85	SW			5		10		SW	0.157	4.0	Covered	Klein, Commandant.
Avignon, Normal School	29.90	759.4	29.98	761.4	79.2	26.2	36	NW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.31	744.4	29.85	758.3	61.2	16.2	71	S			2		10		SW	0.437	11.1	Covered	G. Saillard, Director.
Beauvais, Normal School	29.38	746.2	29.64	752.8	65.3	18.5	73	SSW			5		10		SW	0.079	2.0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.06	738.1	29.97	761.2	66.7	19.3	55	SW			3		5		S	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.11	739.3	30.03	762.8	72.5	22.5	47	S			5		5cn	S	S	0	0	Cloudy	Mariot, Director.
Bourges, Normal School	29.32	744.8	29.87	758.6	60.1	15.6	81	S			3		5kn	S	S	0.35	9.	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.37	745.9	29.61	752.1	63.0	17.2	81	WNW			3		8		W	0.285	7.25	Squally	Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.61	752.1	30.01	762.2	78.1	25.6	39	W			1		0			0	0	Clear	September, Dir.
Caen, Normal School	29.50	749.4	29.58	751.2	65.1	18.4	77	SW			3				SW	0.04	1.		Lair, Director.
Chartres, Normal School	29.12	739.6	29.67	753.7	58.1	14.5	95	S			3		10		N	0.08	2.	Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.51	749.6	29.82	757.5	59.5	15.3	60	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.4	29.85	758.3	72.7	22.6	39	SW			2		5		W	0	0		Alluard, Director.
Commercy, Normal School	28.99	736.4	29.80	756.9	67.7	14.3	72	WSW			5		5kn	WSW	WSW	0.114	2.9	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.92	734.5	30.06	763.5	75.9	24.4	33	NW			2		1		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.20	741.6	29.94	760.5	69.4	20.8	45	NW			1	1c			NW	0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.61	752.2	29.83	757.6	59.7	15.4	98	W			3		10			0.055	1.4	Covered	Mouillot, Director.
Le Mans, Normal School	29.41	746.9	29.71	754.6	60.8	16	91	WSW			5		8		WSW	0.12	3.	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.04	737.6	29.93	760.3	70.3	21.3	48	SW			3		5ck	W	W	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.59	751.6	29.69	754.1	63.7	17.6	74	SW			6				SW	0.484	12.3		Lt.T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.69	754.2	29.96	760.9	69.6	20.9	48	WSW											
Mirecourt, Normal School	28.83	732.2	29.86	758.4	59.0	15	68	NE			5		0			0	0	Clear	E. Stephan, Director
Mont-Louis											3		5		NE	0.04	1.	Cloudy	Barbier, Director
Nismes, Normal School	29.83	757.6	30.02	762.5	83.1	28.4	37	SW											M. Cave.
Paris, Montsouris Obs'y			29.43	747.5	57.9	14.4	93	SSW			1		0			0.030	0.75	Clear	M. Boyer, Director.
Pic du Midi (Summit) H. P.											5		10			0.134	3.4	Sprinkling	Marie Davy, Director
Pic du Midi (Plantade) H. P.	22.65	575.3			54.5	12.5		N											M. Baylac.
Perpignan	29.92	760.0	30.02	762.6	71.6	22.0	45	SE	13.0	5.8	1		0			0	0	Clear	Gen'l de Nansouty.
Privas, Normal School													0			0	0		Dr. Fines.
Puy de Dome (Summit) Obs	25.11	637.9			45.0	7.2	85	W			3		5			0.024	0.6		Cantier, Director.
Rochefort, Naval Obs'y	29.88	758.9	29.91	759.7	61.7	16.5	89	SW			5		10	SW	SW	0.04	1.	Raining	Alluard, Director.
Ronen, Normal School	29.52	749.9	29.61	752.1	63.5	17.5	74	SSW			5		8		SW	0.079	2.0	Very cloudy	Lt. E. Decante, Director.
Saint Malo (Port) Obs'y	29.54	750.2	29.57	751.0	67.3	19.6	67	WSW			5		8	WSW	WSW	0.267	6.78	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.55	750.6	29.72	754.8	60.3	15.7	86	SSW			5		10		SSW	0.134	3.4		Lt. Hercouet, Director.
Tarbes, Normal School	28.99	736.4	30.03	762.8	75.7	24.3	59	SW			1		0			0	0	Clear	E. Renou, Director.
Toulouse, Observatory	29.34	745.2	30.06	763.6	72.3	22.4	60	NW			1		0			0	0		T. Huguet, Director.
Tours	29.59	751.5	29.78	756.5	62.4	16.9	89	SW			1		0			0	0		M. Julier Mercadier.
Versailles, Observatory	29.21	741.8	29.70	754.3	60.1	15.6	81	W			7		10		SW	0.106	2.7		Cousin-Marquet.
Villefranche-sur-Saone, N.S.	29.22	742.3	29.91	759.7	74.1	23.4	42	SSE			5		10		SW	0	0		Dr. A. Berigay, Director
SUB-SERIES.											7					0.154	1.38		Dr. A. Berigay, Director
Fort de France, Martinique											2		2		NE	0	0	Slightly cl'dy	Nicot, Director.
Lyons Obs'y (Park Station)	29.82	757.4	29.85	758.1	77.4	25.2													
Nice	29.83	745.0	29.93	760.2	73.9	23.3	46	SE			1	c		SSW		1.58	40.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)			29.89	759.3	80.2	26.8	59	SE			3		0			0	0		Ch. André, Director.
	29.69	754.0	29.71	754.6	75.7	24.3	94	E	7.2	3.2		6cs				0	0	Clear	Dr. A. Nieper, Jr.
																		Very cloudy	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.6	29.88	759.0	61.2	16.2	75	W	.....	.....	6	.....	8	.....	.....	0.24	6.	Raining	Prof. Dr. Hoh.
Berlin	29.60	751.8	29.76	756.0	68.2	20.1	55	S	.....	.....	4	.....	8	.....	.....	0.130	3.3	.....	Prof. Dr. Arndt.
Breslau	29.34	745.1	29.86	758.5	68.6	20.3	50	SSW	.....	.....	2	.....	9	.....	.....	0.128	3.25	.....	Royal University Obs'y.
Carlsruhe	29.44	747.7	29.86	758.4	62.2	16.6	67	SW	.....	.....	1	.....	10	SW	.....	0	0	.....	Albert Sens.
Cassel	29.17	741.0	29.78	756.3	64.4	18.0	58	WSW	.....	.....	3	.....	8	SW	.....	0.128	3.26	.....	Dr. H. Möhl.
Crefeld	29.52	749.8	29.68	753.9	63.6	17.6	57	S	.....	.....	6	.....	9	.....	.....	0.04	1.	.....	Director Lose.
Emden	.....	.....	29.60	751.9	62.2	16.8	75	SW	.....	.....	2	.....	6	.....	.....	0.166	4.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.45	748.0	29.81	757.1	59.9	15.5	.....	WSW	.....	.....	1	.....	9	.....	.....	0.071	1.8	.....	Physical Society.
Freienwalde on the Oder	29.71	754.7	29.75	755.7	66.0	18.9	57	SW	.....	.....	5	.....	9ks	SW	.....	0.217	5.5	.....	Dr. Assmann.
Friedrichshafen	28.47	723.1	29.86	758.5	66.2	19.0	60	SW	.....	.....	3	.....	5	SW	.....	0.185	4.7	.....	M. Wilhelm.
Hamburg	29.58	751.2	29.64	752.9	61.3	16.3	75	SSW	.....	.....	6	.....	5ck	SW	.....	0.067	1.7	Showery	Captain F. Hegemann.
Kiel	29.61	752.2	29.63	752.7	61.3	16.3	69	SW	.....	.....	4	.....	7	.....	.....	0.155	3.93	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.66	753.4	29.74	755.5	59.0	15.0	79	W	.....	.....	5	.....	8	.....	.....	0.528	13.4	.....	Prof. E. Luther.
Köslin	.....	.....	29.55	750.6	63.3	17.4	.....	W	.....	.....	2	.....	4	.....	.....	0.657	16.7	.....	H. Müller.
Leipsic Observatory	29.42	747.3	29.84	757.8	60.4	15.8	63	SSW	.....	.....	4	.....	9	SW	.....	0.520	13.2	.....	Prof. Bruhns, Privy Counselor.
Memel	29.64	752.8	29.69	754.0	59.5	15.3	70	W	.....	.....	5	.....	10n	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.09	713.5	29.95	760.7	67.5	19.9	36	W	.....	.....	4	.....	9	.....	.....	0.154	3.9	Light rain	Dr. C. Larg.
Neufahrwasser	29.74	755.4	29.76	755.8	68.4	20.2	56	W	.....	.....	2	.....	7	.....	.....	0.594	15.1	.....	A. Lothes.
Posen	29.55	750.6	29.83	757.6	71.2	22.3	41	W	.....	.....	5	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.34	745.2	29.87	758.8	63.9	17.7	55	SW	.....	.....	4	.....	10	.....	.....	0.007	0.17	.....	Imp. University Observatory.
Stuttgart	28.91	734.4	29.83	757.6	65.3	18.5	62	NW	.....	.....	2	.....	8	W	.....	0.016	0.4	.....	Prof. Dr. Schoder.
Treves (Trier)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Prof. Flesch.
Weissenburg (Bavaria)	28.41	721.5	29.89	759.1	58.3	14.6	91	Calm	0	0	.....	.....	10	.....	SW	0.087	2.2	.....	T. Hopfner.
Wustrow	29.65	753.2	29.68	753.8	64.0	17.8	54	SW	.....	.....	5	.....	5ks	.....	.....	0.012	0.3	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.41	746.9	29.77	756.2	98.1	36.7	.....	NE	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.5	29.44	747.8	84.7	29.3	72	S	.....	.....	.....	.....	7	NW	S	0	0	Threatening	
Deesa	29.06	738.1	29.52	749.9	83.9	28.8	76	SW	18.6	8.3	.....	.....	9	.....	SW	0	0	D. clouds	
Bombay	29.61	752.0	29.71	754.6	82.0	27.8	86	SW	21.0	9.4	.....	.....	10	.....	WSW	0.64	16.3	Overcast	
Poona	27.87	707.9	29.73	755.0	76.0	24.4	80	W	.....	.....	.....	.....	6	E	W	0	0	D. clouds	
Lahore	28.64	727.4	29.35	745.6	91.1	32.8	62	Calm	2.9	1.3	.....	.....	4	.....	.....	0	0	D. clouds	
Belgaum	27.25	692.0	29.81	757.2	68.8	20.4	97	W	20.0	8.9	.....	.....	10	.....	SW	3.46	87.9	Raining	
Roorkee	28.51	724.2	29.40	746.8	77.8	25.4	88	SE	7.4	3.3	.....	.....	10	.....	.....	0.40	10.2	.....	
Agra	28.84	732.5	29.39	746.6	82.7	28.2	87	SW	.....	.....	.....	.....	10	.....	S	0	0	.....	
Nagpur	28.51	724.1	29.54	750.2	81.2	27.3	77	W	7.5	3.4	.....	.....	7	.....	E	0.05	1.3	D. clouds	
Lucknow	29.04	737.7	29.41	747.1	85.0	29.4	96	S	2.1	0.9	.....	.....	10	.....	.....	0.30	7.6	Overcast	
Allahabad	29.13	739.8	29.43	747.6	86.9	30.5	76	Calm	1.9	0.8	.....	.....	8	.....	.....	0	0	D. clouds	
Patna	29.28	743.7	29.46	748.2	84.0	28.9	86	Calm	0.3	0.1	.....	.....	10	.....	.....	0.06	1.5	Overcast	
Hazaribagh	27.49	698.3	29.48	748.7	78.8	26.0	84	NW	8.0	3.6	.....	.....	10	.....	.....	0.02	0.5	Showery	
Cuttack	29.49	749.0	29.57	751.1	78.8	26.0	87	SSW	4.0	1.8	.....	.....	10	.....	.....	1.87	47.5	Showery	
Calcutta (Alipore)	29.47	748.4	29.49	749.0	79.9	26.6	91	SSW	11.0	4.9	.....	.....	10	.....	W	.....	.....	Drizzling	
Goalpara	29.10	739.0	29.48	748.9	78.8	26.0	95	SSE	9.0	4.0	.....	.....	10	.....	.....	1.67	42.4	Thunder-storm	
Chittagong	29.46	748.4	29.56	750.8	79.6	26.4	93	SSE	8.0	3.6	.....	.....	9	.....	.....	0.18	4.6	Gloomy	
Sibsagar	29.20	741.7	29.53	750.1	83.6	28.7	81	SE	2.4	1.1	.....	.....	10	.....	.....	0.66	16.8	D. clouds	
Jubbulpore	28.14	714.6	29.48	748.8	81.3	27.4	85	SW	5.2	2.3	.....	.....	10	.....	E	0.35	8.9	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.48	748.8	29.87	758.8	74.8	23.6	87	NE	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.33	745.0	29.82	757.5	82.9	28.3	16	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.4	29.85	758.1	78.4	25.8	43	W	4.3	1.9	.....	.....	4	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.96	735.6	29.83	757 6	79.0	26.1	22	WSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.70	754.3	29.88	759.0	75.0	23.9	64	SE	12.5	5.6	.....	.....	0?	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.98	710.7	29.82	757.4	76.8	24.9	44	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Florence	29.78	756.4	29.88	757.6	81.0	27.2	37	N	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Leghorn	29.67	753.6	29.92	759.9	78.8	26.0	40	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Rome	29.81	757.1	29.89	759.2	74.7	23.7	50	W	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Lecce	29.73	755.2	29.90	759 5	81.5	27.5	45	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Cosenza	29.59	751.6	29.84	757.8	92.7	33.7	23	WNW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.66	738.0	29.89	759.2	87.8	31.0	61	NW	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.79	756.7	29.98	761.4	80.2	26.8	25	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Syracuse	29.72	754.8	29.96	761.0	80.6	27.0	49	NE	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
SUB-SERIES.																			
Naples, S. R.	29.41	747.0	29.97	761.1	79.6	26.4	57	NE	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.04	760.5	29.95	760.7	75.9	24.4	93	Calm	0	0	.....	.....	10n	.....	.....	0.225	5.71	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.02	752.3	29.81	757.2	76.9	24.9	78	E	8.8	3.9	.....	.....	9n	.....	.....	2.500	63.50	Raining	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.96	761.0	30.02	762.5	77.6	25.3	87	SSW	12.1	5.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.95	760.7	30.00	762.0	76.5	24.7	89	SSE	1.4	0.6	.....	.....	9s;ks	.....	S	0.236	5.97	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano BArcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leon	25.01	635.2	29.97	761.3	60.8	16.0	75	Calm	.....	.....	0	.....	10	.....	E	0.19	4.8	Covered	Prof. L. Perez.
Mexico, Central Obs'y	24.39	619.4	29.97	761.2	66.2	19.0	84	SE	.....	.....	3	4c	6k	....	E	0.36	9.2	Covered	Prof. M. Leal.
Pabellon (Aguascalientes)	23.05	585.4	29.97	761.1	59.0	15.0	81	Calm	0	0	.....	9k	0	SE	.....	0.06	1.5	Cloudy	The Staff.
Tlacotalpam	.....	.....	.....	.....	66.7	19.3	71	NE	.....	.....	2	.....	10kn	.....	.....	0	0	Covered	M. V. de Leon, M. E
San Luis Potosi	29.89	759.1	29.90	759.4	76.8	24.9	85	E	.....	.....	1	9	0	NE	.....	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	24.18	614.1	30.08	764.0	62.1	16.7	58	E	.....	.....	1	.....	10	.....	E	0.67	17.0	Covered	G. Barroeta, M. D.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Puebla (Catholic Institute)	22.54	572.5	30.08	763.9	59.2	15.1	86	NE	.....	.....	3	2c	8n	SE	SE	Inap.	Inap	Light rain	J. C. Castrillon.
Colima	23.42	594.8	30.18	766.6	65.6	18.1	83	Calm	0	0	.....	9ck	0	SE	.....	0.60	15.2	Very cloudy	Prof. P. Spina
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
	29.59	751.5	29.87	758.8	80.1	26.7	82	SE	.....	.....	2	.....	10	.....	SE	0	0	Covered	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,558.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Groningen	29.58	751.4	29.58	751.4	59.0	15.0	.....	S	.....	.....	4	.....	.....	.....	.....	0.035	0.9	.....	
Helder	29.56	750.7	29.61	752.1	58.5	14.7	.....	SW	.....	.....	1	.....	.....	.....	.....	0.354	9.0	.....	
Hellevoetsluis	29.55	750.5	29.55	750.5	56.8	13.8	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.417	10.6	.....	
Utrecht	29.60	751.7	29.60	751.7	58.8	14.9	89	SSW	.....	.....	4	.....	.....	.....	.....	0.209	5.3	.....	
.....	29.57	751.1	29.62	752.3	61.3	16.3	70	SSW	.....	.....	4	.....	8	.....	.....	0.178	4.4	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.28	743.7	29.34	745.1	60.1	15.6	68	SSW	25.1	11.2	.....	.....	3	.....	.....	0.116	3.0	Light rain..	
Brönö	29.72	754.8	29.76	755.8	64.0	17.8	46	SSE	27	12	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.33	745.0	29.47	748.6	63.9	17.7	56	SW	13	6	.....	.....	7	.....	.....	0.602	15.3	.....	
Tromsö	29.62	752.4	29.67	753.5	71.6	22.0	42	NE	18	8	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.7	30.34	770.5	71.4	21.9	87	SSE	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.04	763.0	55.1	29.5	20	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.08	764.1	30.17	766.3	73.9	23.3	69	SW	3.8	1.7	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.2	30.12	765.1	73.6	23.1	40	N	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	768.7	30.34	770.5	74.5	23.6	73	NE	11.2	5.0	.....	.....	8	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from —																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea	.....	.....	30.03	762.8	84.6	29.2	.....	SSW	.....	.....	2	.....	2	.....	S	3	SSW	Blue sky	H. C. e Athayde.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.08	764.0	68.4	20.2	.....	WNW	.....	.....	2	.....	10	.....	WNW	1	WNW	Overcast	J.C. M. Cabrate, 1st Lt.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island	.....	.....	29.99	761.8	77.4	25.2	.....	NE	.....	.....	2	.....	4	.....	NE	.....	.....	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.85	758.1	82.4	28.0	.....	ESE	.....	.....	3	.....	4	.....	ESE	2	SE	Raining. 3 hours rain-fall.]	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.2	29.79	756.6	66.7	19.3	57	WNW	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.20	741.7	29.60	751.9	68.2	20.1	74	SW	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.46	748.1	29.68	753.9	74.3	23.5	47	ESE	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.78	756.4	29.80	756.8	64.4	18.0	26	ENE	9	4	.....	2c	.....	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.00	736.7	29.60	751.8	78.6	25.9	63	SE	9	4	.....	.....	8k;ks;cn]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	85.5	29.7	54	SSW	18	8	.....	.....	2ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.21	741.8	29.73	755.2	65.7	18.7	46	N	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.48	748.8	29.68	753.8	78.8	26.0	36	W	9	4	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.81	757.2	29.83	757.7	48.4	9.1	86	WNW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.35	720.2	29.68	753.9	87.3	30.7	40	NW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.71	754.5	29.62	752.4	83.3	28.5	19	W	13	6	.....	.....	1ck	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	28.92	734.6	29.38	746.2	57.9	14.4	86	NNW	16	7	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasán	29.06	738.1	29.32	744.7	57.6	14.2	87	NW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.31	719.0	29.22	742.1	67.1	19.5	63	E	7	3	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.39	746.4	29.60	751.9	93.4	34.1	29	SSW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.19	715.9	29.64	752.9	85.3	29.6	48	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.01	736.9	29.47	748.5	84.2	29.0	50	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.37	745.9	29.63	752.7	89.8	32.1	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.56	750.9	29.71	754.5	76.1	24.5	87	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	Thunder-storm	Physical Observato ry.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409.6 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	77.7	25.4	61	SE	5.1	2.28	.....	.....	3	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.3	29.99	761.7	84.6	29.2	54	E	2.5	1.13	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.1	.....	.....	77.0	25.0	29	S	7.0	3.14	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Osservatory	27.84	707.1	29.91	759.6	92.1	33.4	23	W	8.2	3.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.93	760.3	87.3	30.7	56	E	5.0	2.25	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.07	763.7	62.4	16.9	83	SW	15.1	8.1	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.4	30.04	763.1	80.1	26.7	84	E	3.4	1.5	.....	5c	0	WNW	.....	0.016	0.4	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.7	29.84	758.0	81.2	27.3	85	W	11.2	5.0	.....	.....	10n	.....	W	0.201	5.1	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.8	30.09	764.2	71.6	22.0	67	WNW	8.2	3.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.96	761.0	30.05	763.3	84.2	29.0	73	E	2.5	1.10	.....	2ck	2k	E	E	0.049	1.25	Clear	Leonardo de Tejeda, Ch't Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.77	756.2	29.81	757.2	69.8	21.0	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.67	753.6	29.72	754.9	66.9	19.4	47	SE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Hernosand	29.55	750.6	29.60	751.9	59.7	15.4	83	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	29.37	745.9	29.54	750.4	58.3	14.6	76	W	.....	.....	6	.....	10	.....	.....	0.047	1.2	.....	
Wisby	29.54	750.3	29.60	751.8	61.5	16.4	79	W	.....	.....	6	.....	5	.....	.....	0.201	5.1	.....	
Sub-Series. Upsala	29.43	747.4	29.51	749.6	56.3	13.5	95	WSW	9.8	4.4	.....	.....	10	.....	W	0.464	11.78	.....	Nils Ekholm.
Naval Series. Corvette Saga, N. 37° 36', W. 0° 18'	.....	.....	30.10	764.6	60.6	27.0	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.52	724.4	29.91	759.6	68.0	20.0	46	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.30	718.7	29.59	759.2	67.1	19.5	64	W	.....	.....	2	.....	5	.....	.....	0.020	0.5	Cloudy	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —2.9 mm.; Thermometer, -2.1 Cent.; Relative Humidity, —7 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.79	756.6	89.6	32.0	40	NNE	2	1.0	.....	0	.....	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.96	761.0	97.2	36.2	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series. Beirut, (Syria) Lee Obs'y	29.56	750.8	29.68	753.8	91.0	32.8	58	SW	.....	.....	3	.....	5k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	29.68	752.6	29.69	754.1	75	23.9	62	SW	5	2.2	.....	10c	0	SW	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.72	754.9	67	19.4	72	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.70	754.4	29.89	759.2	67.9	19.9	94	W	.....	.....	1	.....	10s	.....	.....	0.026	0.66	Cloudy	H. A. Johnson.
Esquimault, B. C	29.64	750.3	29.69	754.1	70.2	21.2	72	W	.....	.....	3	.....	10ks	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.67	753.6	29.69	754.1	65	18.3	75	SW	20	8.9	.....	8k	Haze	W	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.74	755.4	29.80	756.9	75.6	23.9	58	W	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.01	736.8	29.81	757.2	60	15.6	88	SW	3	1.3	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.97	735.8	30.03	762.7	70	21.1	90	Calm	.....	.....	0	.....	10n	.....	.....	.....	.....	Raining	James Grant.
*Halifax, N. S	29.71	754.6	29.82	757.4	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.69	754.1	30.04	763.0	76.8	24.9	81	NW	.....	.....	1	10cs	0	NW	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.68	753.9	30.00	762.0	70	21.1	88	W	2	0.9	.....	8cs	2ck	W	W	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.68	753.9	29.71	754.6	73.6	23.1	61	SW	8	3.6	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.70	754.4	29.89	759.2	67	19.4	85	W	22	9.8	.....	.....	10n	.....	NW	0.09	2.3	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.32	744.7	29.98	761.6	66	20.0	89	W	2	0.9	.....	5k	5ks	W	W	0.04	1.0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.90	759.4	79.5	26.4	66	W	.....	.....	2	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.87	746.0	30.03	762.7	74	23.3	95	Calm	0	0	.....	5k	5n	SW	SW	Inap.	Inap.	Cloudy	H. Morgan.
Port Hastings, N. S	29.66	753.4	29.71	754.6	63.1	17.3	.....	SW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.42	747.3	30.04	763.0	72	22.2	94	E	2	0.9	.....	.....	8ks	.....	W	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec	29.55	750.6	29.86	758.4	67	19.4	92	NW	.....	.....	1	.....	10n	.....	NW	Inap.	Inap.	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.48	748.8	29.91	759.7	76	23.9	70	W	4	1.8	.....	5ck	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.76	755.9	29.81	757.2	89	31.7	72	W	.....	.....	1	0	Haze	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.64	752.8	29.80	756.9	61	16.1	77	SE	2	0.9	.....	0	8ck	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.02	762.5	66	18.9	98	S	8	3.6	.....	.....	10ks	.....	S	0.16	4.1	Heavy rain	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.21	5.3	.....	R. J. Cole.
Stratford, Ontario	28.78	731.0	30.02	762.5	67.2	19.6	97	NW	3	1.3	.....	.....	10s;n	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.78	756.1	29.77	756.1	66	18.9	77	SW	9	4.0	.....	8c	0	N	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.01	762.2	74	23.3	81	SW	7	3.1	.....	.....	8ks	.....	W	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	29.71	754.6	29.80	756.9	73.0	22.8	59	N	1	0.4	.....	.....	10n	.....	.....	0	0	Overcast	Prof. John E. Oram.
Woodstock	28.99	736.3	30.01	762.2	71.4	21.9	90	W	1	0.4	.....	0	10s	.....	W	0.06	1.5	Cloudy	Prof. J. Montgomery.
Sub-Series. St. Johns, Newfoundland	29.66	753.4	29.92	760.0	49.0	9.4	96	E	.....	.....	.....	Fog	Fog	.....	.....	0.02	0.5	Foggy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.83	757.7	30.05	763.3	73	22.8	72	S	4	1.8	.....	Haze	2ks	.....	W	0	0	Fair	
Alpena, Michigan	29.32	744.7	29.94	760.5	67	19.4	89	S	5	2.2	.....	.....	10s	.....	S	1.47	37.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	85	W	.....	.....	1	0	1s	.....	SW	0.16	4.1	Clear	
Atlanta, Georgia	29.69	738.9	30.20	767.1	76	24.4	56	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.14	765.5	30.16	766.1	65	18.3	84	SW	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	30.05	763.3	30.24	768.1	74	23.3	68	SE	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	30.12	765.0	30.17	766.3	74	23.3	63	S	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	30.11	764.8	30.14	765.5	76	24.4	69	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.11	714.0	29.06	761.0	59	15.0	94	NW	2	0.9	.....	.....	10n	.....	Calm	0.49	12.4	Light rain	
Boerne, Texas	28.53	724.6	29.78	756.4	76	24.4	73	S	6	2.7	.....	.....	10n	.....	S	Inap	Inap.	Light rain	
Boise City, Idaho	27.04	686.8	30.00	762.0	53	11.7	54	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.87	758.7	30.02	762.5	78	25.6	61	W	9	4.0	.....	1ck	0	N	.....	0	0	Clear	
Brackettville, Texas	28.79	731.3	29.77	756.1	80	26.7	70	SE	11	4.9	.....	0	5ks	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.72	729.5	29.67	753.6	63	17.2	89	N	6	2.7	.....	.....	10s	.....	NE	0.04	1.0	Cloudy	
Brownsville, Texas	29.87	758.7	29.91	759.7	84	28.9	75	SE	8	3.6	.....	5cs	0	Calm	.....	0.97	24.6	Fair	
Buffalo, New York	29.36	745.7	30.02	762.5	74	23.3	81	SW	6	2.7	.....	5k	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	72	22.2	34	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.66	753.4	29.94	760.5	76	24.4	60	S	8	3.6	.....	5k	Haze	W	.....	0	0	Fair	
Cairo, Illinois	29.77	756.1	30.15	765.8	80	26.7	62	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.27	692.6	29.84	757.9	46	7.8	69	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.26	768.6	30.27	768.8	77	25.0	60	E	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Cape Henry, Virginia	30.20	767.1	30.22	767.6	72	22.2	67	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.24	768.1	30.25	768.3	76	24.4	60	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.14	765.5	30.16	766.1	67	19.4	84	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.17	740.9	29.84	757.9	80	26.7	78	SE	4	1.8	.....	.....	10s	.....	S	0		Cloudy	
Charleston, South Carolina	30.17	766.3	30.22	767.6	76	24.4	64	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.43	747.5	30.21	767.3	77	25.0	53	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.46	748.3	30.24	768.1	74	23.3	59	E	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	56	13.3	51	NW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.29	744.0	29.94	760.5	70	26.1	70	SW	11	4.9	.....	5cs	0	NE	.....	0	0	Fair	
Cincinnati, Ohio	29.53	750.0	30.16	766.1	76	24.4	64	SE	3	1.3	.....	9k	0	SW	.....	0	0	Cloudy	
Cleveland, Ohio	29.39	746.5	30.07	763.8	77	25.0	57	S	10	4.5	.....	5cs	Haze	W	Calm	0	0	Fair	
Coleman City, Texas	28.15	715.0	29.71	754.6	80	26.7	74	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.32	744.7	30.11	764.8	81	27.2	55	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.05	712.5	29.64	752.8	76	24.4	73	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Corsicana, Texas	29.54	750.3	29.99	761.7	78	25.6	86	SE	7	3.1	.....	.....	10ks	.....	S	0	0	Threatening	
Davenport, Iowa	29.30	744.2	29.89	759.2	79	26.1	74	SW	10	4.5	.....	8c	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.36	644.1	.....	.....	49	9.4	93	Calm	0	0	.....	0	5s	.....	E	0.62	15.7	Fair	
Decatur, Texas	28.82	732.0	29.93	760.2	79	26.1	82	S	14	6.3	.....	5ck	0	S	.....	0	0	Fair	
Denison, Texas	29.19	741.4	29.94	760.5	79	26.1	82	SE	12	5.4	.....	5k	0	S	.....	0	0	Fair	
Denver, Colorado	24.84	630.9	30.06	763.5	54	12.2	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.94	735.1	29.76	755.9	78	25.6	82	SW	16	7.2	.....	8c	0	W	.....	0	0	Fair	
Detroit, Michigan	29.38	746.2	30.02	762.5	73	22.8	81	W	7	3.1	.....	.....	10s	.....	Calm	0.24	6.1	Cloudy	
Dodge City, Kansas	27.29	693.2	29.43	747.5	76	24.4	69	S	12	5.4	.....	1c	0	W	.....	0	0	Clear	
Dubuque, Iowa	29.18	741.1	29.83	757.7	79	26.1	70	SE	6	2.7	.....	5k	Haze	S	Calm	0.28	7.1	Fair	
Duluth, Minnesota	29.08	738.6	29.72	754.9	63	17.2	89	NE	5	2.2	.....	.....	10n	.....	NE	0.07	1.8	Light rain	
Eagle Pass, Texas	29.14	740.1	29.82	757.4	82	27.8	75	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.77	756.1	29.84	757.9	72	22.2	67	W	8	3.6	.....	5c	Haze	W	Calm	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	82	S	.....	.....	1	5c	2s	Calm	Calm	0.20	5.1	Fair	
El Paso, Texas	26.14	663.9	.....	.....	77	25.0	38	E	1	0.4	.....	5cs	2s	Calm	Calm	Inap.	Inap.	Fair	
Erie, Pennsylvania	29.37	746.0	30.04	763.0	77	25.0	65	SW	5	2.2	.....	2k	5ks	W	SW	0	0	Cloudy	
Escanaba, Michigan	29.25	742.9	29.87	758.7	66	18.9	89	E	4	1.8	.....	.....	10n	.....	SW	0.60	15.2	Light rain	
Florence, Arizona	28.33	719.6	29.93	760.2	80	26.7	25	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.89	708.4	.....	.....	59	15.0	81	SW	2	0.9	.....	8cs	0	Calm	.....	0	0	Cloudy	
Fort Davis, Texas	25.18	639.6	30.14	765.5	74	23.3	43	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.96	761.0	80	26.7	74	SE	8	3.6	.....	10cs	0	S	.....	0	0	Cloudy	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	65	18.3	14	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.90	759.4	79	26.1	70	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.41	696.2	.....	.....	59	15.0	76	Calm	0	0	.....	.....	10s	.....	Calm	0.44	11.2	Cloudy	
Fort McKavett, Texas	27.71	703.8	29.53	750.0	75	23.9	77	SE	8	3.6	.....	0	8s	.....	S	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.77	756.1	77	25.0	77	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.07	713.0	.....	.....	60	15.6	82	N	2	0.9	.....	.....	8s	.....	N	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	53	11.7	19	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.24	717.3	29.73	755.1	78	25.6	73	S	8	3.6	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	82	27.8	83	S	4	1.8	.....	.....	10ks	.....	S	0.01	0.3	Threatening	
Graham, Texas	28.89	733.8	29.89	759.2	80	26.7	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.33	745.0	29.95	760.7	73	22.8	81	SW	24	10.7	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.99	736.3	29.87	758.7	77	25.0	86	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.33	745.0	30.06	763.5	79	26.1	61	S	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Indianola, Texas	29.98	761.5	30.01	762.2	81	27.2	83	S	4	1.8	.....	0	5ks	.....	S	0.01	0.3	Fair	
Jacksboro, Texas	28.74	730.0	29.83	757.7	81	27.2	83	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.18	766.6	30.20	767.1	81	27.2	55	NE	3	1.3	.....	0	0	.....	.....	0.17	4.3	Clear	
Keokuk, Iowa	29.29	744.0	29.86	758.4	82	27.8	71	S	18	8.0	.....	1c	0	W	.....	0	0	Clear	
Key West, Florida	30.03	762.7	30.06	763.5	81	27.2	78	E	8	3.6	.....	2ck	0	NE	.....	0.09	2.3	Fair	
Kittyhawk, North Carolina	30.22	767.6	30.24	768.1	75	23.9	68	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.28	743.7	30.25	768.3	76	24.4	60	E	1	0.4	.....	0	2ks	.....	Calm	0	0	Fair	
La Crosse, Wisconsin	29.04	737.6	29.72	754.9	78	25.6	82	S	12	5.4	.....	.....	10s	.....	S	0.31	7.9	Cloudy	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	70	21.1	21	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Laredo, Texas	29.51	749.5	29.84	757.9	81	27.2	55	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.85	758.2	77	25.0	82	S	8	3.6	.....	8ck	0	W	.....	0	0	Cloudy	
Little Rock, Arkansas	29.78	756.4	30.12	765 0	76	24.4	86	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Los Angeles, California	29.51	749.5	29.85	758.2	59.0	15.0	82	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.61	752.1	30.14	765.5	80	26.7	55	S	4	1.8	.....	1ck	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.54	750.3	30.20	767.1	79	26.1	57	SE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	28.91	734.3	29.84	757.9	76	24.4	86	SW	12	5.4	.....	10cs	0	SW	.....	Inap.	Inap	Cloudy	
Marquette, Michigan	29.13	739.9	29.79	756.7	67	19.4	84	SE	4	1.8	.....	.....	10ks	.....	S	0.34	8.6	Cloudy	
Mason, Texas	28.34	719.8	30.01	762.2	77	25.0	73	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.82	757.4	30.15	765.8	78	25.6	65	SE	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear	
Milwaukee, Wisconsin	29.20	741.7	29.88	758.9	77	25.0	82	SW	15	6.7	.....	10cs	0	NW	.....	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.10	764.5	30.14	765.5	80.5	26.9	80	E	8	3.6	.....	0	2ks	.....	S	Inap	Inap	Fair	
Montgomery, Alabama	30.00	762.0	30.23	767.8	76	24.4	76	SE	4	1.8	.....	.....	10ks	.....	S	Inap.	Inap.	Threatening	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r (—10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.19	741.4	30.13	765.8	81	27.2	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.90	607.0	30.26	768.6	51	10.6	100	NW	47	21.0	.....	.....	Fog	.....	NW	0	0	Foggy.....	
Nashville, Tennessee.....	29.66	753.4	30.18	766.6	71	21.7	71	SE	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy.....	
New Haven, Connecticut.....	29.97	761.2	30.08	764.0	81	27.2	63	SW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear.....	
New London, Connecticut...	30.04	763.0	30.08	764.0	76	24.4	73	SW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear.....	
New Orleans, Louisiana.....	30.03	762.7	30.09	764.3	82	27.8	79	E	4	1.8	.....	0	1ks	.....	Calm	0.67	17.0	Clear.....	
Newport, Rhode Island.....	30.01	762.2	30.06	763.5	71	21.7	75	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York.....	29.94	760.5	30.11	764.8	71	21.7	79	SW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Norfolk, Virginia.....	30.16	766.1	30.21	767.3	79	26.1	58	SW	6	2.7	.....	0	Haze	.....	.....	0	0	Clear.....	
North Platte, Nebraska.....	27.04	686.8	29.56	750.8	56	13.3	94	W	6	2.7	.....	0	Haze	.....	.....	0.14	3.6	Hazy.....	
Olympia, Washington Ter..	29.90	759.4	29.94	760.5	52.5	11.4	80	S	2	0.9	.....	0	8s	.....	SW	0	0	Cloudy.....	
Omaha, Nebraska.....	28.67	728.2	29.70	754.4	73	22.8	76	SW	6	2.7	.....	5k	2s	S	Calm	0.46	11.7	Fair.....	
Oswego, New York.....	29.71	754.6	30.01	762.2	77	25.0	65	W	8	3.6	.....	8c	0	SW	.....	0	0	Fair.....	
Pembina, Dakota.....	28.95	735.3	29.75	755.6	54	12.2	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pa.....	30.09	764.3	30.14	765.5	73	22.8	70	SW	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.69	728.2	30.34	770.6	65	18.3	26	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	17.94	455.7	30.15	765.8	33	0.6	23	SW	22	9.8	.....	0	0	.....	.....	0	0	Clear.....	
Ploche, Nevada.....	.....	.....	.....	.....	53	11.7	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.35	745.5	30.12	765.0	76	24.4	60	SW	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.35	745.5	29.99	761.7	71	21.7	85	S	11	4.9	.....	.....	10ks	.....	W	Inap	Inap.	Cloudy.....	
Portland, Maine.....	29.91	759.7	29.96	761.0	75	23.9	64	W	9	4.0	.....	1k	0	Calm	.....	0	0	Clear.....	
Portland, Oregon.....	29.92	760.0	30.00	762.0	57.5	14.2	73	N	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Prescott, Arizona.....	24.70	627.4	30.07	763.8	44	6.7	23	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida.....	30.08	764.0	30.10	764.5	76	24.4	82	NE	13	5.8	.....	5ks	0	SW	.....	0.20	5.1	Fair.....	
Red Bluff, California.....	29.42	747.3	29.76	755.9	69	20.6	43	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.74	755.4	29.95	760.7	91	32.8	83	SE	10	4.5	.....	5ck:cs	5s	Calm	Calm	0	0	Cloudy.....	
Rochester, New York.....	29.43	747.5	30.02	762.5	76	24.4	73	W	8	3.6	.....	5k	2s	W	W	0.05	1.3	Cloudy.....	
Roseburg, Oregon.....	29.46	748.3	30.02	762.5	67.5	14.2	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California.....	29.69	754.1	29.77	756.1	65	12.8	81	S	3	1.3	.....	2c	0	Calm	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.46	748.3	30.01	762.3	77	25.0	73	S	11	4.9	.....	0	Haze	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.19	766.8	30.20	767.1	75	23.9	77	E	10	4.5	.....	0	0	.....	.....	0.05	1.3	Clear.....	
St. Paul, Minnesota.....	28.76	730.5	29.53	750.0	67	19.4	90	E	20	8.9	.....	0	8ks	.....	S	5.01	127.3	Fair.....	
Salt Lake City, Utah.....	25.56	649.2	29.90	759.4	65	18.3	18	Calm	0	0	.....	8k	0	W	.....	0	0	Cloudy.....	
San Antonio, Texas.....	29.28	743.7	29.83	757.7	81	27.2	74	SE	4	1.8	.....	5k	0	SE	.....	Inap.	Inap.	Fair.....	
San Diego, California.....	29.80	756.9	29.87	758.7	61	16.1	77	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.44	747.8	30.08	764.0	76	24.4	69	W	5	2.2	.....	Haze	Sm'e	Calm	Calm	Inap	Inap.	Hazy.....	
Sandy Hook, New Jersey....	30.08	764.0	30.11	764.8	77	25.0	65	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California..	29.77	756.1	29.83	757.7	54	12.2	83	SW	3	1.3	.....	10k	0	SW	.....	0	0	Cloudy.....	
Santa Fé, New Mexico.....	23.33	592.6	29.87	758.7	52	11.1	18	NE	2	0.9	.....	1c	0	Calm	.....	0	0	Clear.....	
Savannah, Georgia.....	30.15	765.8	30.24	768.1	73	22.8	72	NE	5	2.2	.....	2ck	8s	E	E	0	0	Cloudy.....	
Shreveport, Louisiana.....	29.87	758.7	30.08	764.0	77	25.0	91	SE	6	2.7	.....	0	5ks	.....	S	0	0	Fair.....	
Silver City, New Mexico.....	24.29	617.0	30.30	769.6	58	14.4	16	NW	2	0.9	.....	5c	0	Calm	.....	0	0	Clear.....	
Smithville, North Carolina.	30.23	767.8	30.27	768.8	74	23.3	72	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico.....	25.38	644.6	29.44	747.8	69	20.6	20	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair.....	
Springfield, Ill.....	29.86	758.7	30.02	762.5	80	26.7	60	S	10	4.5	.....	1cs	0	W	.....	0	0	Clear.....	
Springfield, Massachusetts	29.92	760.0	30.04	763.0	76	24.4	73	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas.....	26.88	682.7	29.88	765.9	75	23.9	4	SE	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.95	760.7	30.00	762.0	75	23.9	77	W	13	5.8	.....	2c	0	W	.....	0	0	Clear.....	
Toledo, Ohio.....	29.39	746.5	30.04	763.0	78	25.6	65	W	8	3.6	.....	8c	0	Calm	.....	0	0	Fair.....	
Tucson, Arizona.....	27.39	695.7	29.94	760.5	71	21.7	29	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon.....	29.50	749.3	29.97	761.2	61.0	16.1	66	W	16	7.2	.....	5ck	0	W	.....	0	0	Fair.....	
Uvalde, Texas.....	29.01	736.8	29.79	756.7	81	27.2	74	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Vicksburg, Mississippi.....	29.89	759.2	30.14	765.5	77	25.0	86	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana.....	24.22	615.2	29.70	754.4	50	10.0	65	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California.....	29.39	746.5	29.75	755.6	62	16.7	59	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	30.05	763.3	30.16	766.1	76	24.4	60	SW	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	61	16.1	40	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	30.18	766.6	30.25	768.3	71	21.7	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.57	649.5	29.93	760.2	46	7.8	52	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.02	762.5	30.06	763.5	66	18.9	84	SW	28	12.5	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.51	725.7	29.73	755.1	64	17.8	89	S	7	3.1	.....	0	2ks	.....	Calm	2.00	50.8	Clearing,....	
Yuma, Arizona.....	29.58	751.3	29.74	755.4	65	18.3	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Kingston, Jamaica, W. I....	29.98	761.5	30.03	762.7	81	27.2	78	SE	1.2	0.5	.....	8c	0	Calm	.....	0.03	0.8	Cloudy.....	Chas. Hasselbrink.
Medellin, Colombia, S. A...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.....	25.23	640.8	.....	.....	65.5	18.6	85	Calm	.....	.....	0	4ck	6ks	.....	.....	0.09	2.3	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.99	761.7	81	27.2	75	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	30.03	762.7	30.03	762.7	80	26.7	82	NE	.....	.....	2	5k	6ks	E	.....	0.230	5.84	½ Clouded?	C. J. Hering.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,118.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160.7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla. †	30.30‡	769.6‡	.....	.....	81	27.2	87	E	15	6.7	.....	.....	8	.....	E	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N. H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	30.04‡	763.0‡	.....	.....	78	25.6	91	SW	.....	.....	3	.....	1ck	.....	W	0	0	.....	.....	Clear	
Adams. Mazatlan, Mexico	29.86‡	758.4‡	.....	.....	82	27.8	91	W	.....	.....	3	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Alliance. Southampton, Eng	29.44‡	747.8‡	.....	.....	54	12.2	94	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Ashuelot, Yokohama, Japan	30.06‡	763.5‡	.....	.....	78	25.6	95	SSW	.....	.....	4	.....	2	.....	S	.....	.....	Smooth	.....	Clear	
Colorado. New York, N. Y.	30.04‡	763.0‡	.....	.....	73	22.8	72	WSW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constellation, Halifax, Novia Scotia	29.82‡	757.4‡	.....	.....	59	15.0	82	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Hazy	
Constitution, League Isl. Navy Yard, Pa.	30.15‡	765.8‡	.....	.....	74	23.3	77	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, Christiania, Norway	29.50‡	749.3‡	.....	.....	62	16.7	72	SSW	.....	.....	3–5	.....	3	.....	S	.....	.....	.....	.....	Clear	
Franklin. Norfolk, Va.	30.22‡	767.6‡	.....	.....	73	22.8	67	WSW	10	4.5	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Hartford. Montevideo, Uruguay	30.21‡	767.3‡	.....	.....	68	14.4	88	N	4	1.8	.....	.....	10	.....	N	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.86‡	758.4‡	.....	.....	60	15.6	94	SSW	2	0.9	.....	.....	2	.....	SW	.....	.....	.....	.....	Clear	
Kearsarge, White Stone, Long Isl., N.Y.	30.12‡	765.0‡	.....	.....	72	22.2	80	S	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Michigan, Erie, Pa	30.03‡	762.7‡	.....	.....	77.5	25.3	69	WSW	.....	.....	2	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	29.71‡	754.6‡	.....	.....	79	26.1	86	E	.....	.....	2	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	30.05‡	763.3‡	.....	.....	80	26.7	91	SSW	.....	.....	3	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.24‡	768.1‡	.....	.....	78	25.6	69	NE	14	6.3	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Onward, Callao, Peru †	30.21‡	767.3‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.71‡	754.6‡	.....	.....	77	25.0	95	E	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	76	24.4	100	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 17° 30′, W. 73° 42′	30.01‡	762.2‡	.....	.....	64	17.8	83	Var.	1	0.4	.....	.....	10	.....	.....	0	0	Smooth	SW	Overcast	
Portsmouth. Newport, Rhode Island	30.06‡	763.5‡	.....	.....	67	19.4	84	SW	.....	.....	4	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Powhatan, New York, N. Y.	30.07‡	763.8‡	.....	.....	73	22.8	68	SW	.....	.....	1	.....	8	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.77‡	756.1‡	.....	.....	79	26.1	70	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.65‡	753.1‡	.....	.....	84	28.9	79	ESE	.....	.....	2	.....	8	.....	Calm	.....	.....	Smooth	Calm	Cloudy	
Richmond, Yokohama, Japan	30.05‡	763.3‡	.....	.....	80	26.7	87	SSW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	SSW	Clear	
Rio Bravo, Brownsville, Texas	29.92‡	760.0‡	.....	.....	81	27.2	96	SE	.....	.....	1	.....	2	.....	Calm	0.22	5.6	.....	.....	Fair	
Santee, Annapolis, Md.	30.15‡	765.8‡	.....	.....	76	24.4	73	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Saratoga, N. 33° 31′, W. 66° 25	30.22‡	767.6‡	.....	.....	73	22.8	76	E	.....	.....	3	.....	2	.....	E	0	0	Mod'ate	NE	D. clouds	
St. Louis, League Island, Pa	30.13‡	765.3‡	.....	.....	73	22.8	81	SW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, N. 51° 21′, E. 2° 15′	29.54‡	750.3‡	.....	.....	54	12.2	77	SSW	.....	.....	6	.....	10	.....	WSW	0.01	0.3	Heavy	W	Drizzling	
Tuscarora, Mare Island Navy Yard, Cal	29.86‡	758.4‡	.....	.....	57	13.9	94	SSW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	30.10‡	764.5‡	.....	.....	72	22.2	80	WSW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass	30.06‡	762.0‡	.....	.....	82	27.8	54	W	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wyoming, Trieste, Austria	29.83‡	757.7‡	.....	.....	77	25.0	53	S	.....	.....	2–3	.....	5	.....	S	.....	.....	Smooth	S	Fair	
Wachusett, 65 m'ls above Vicksburg, Miss	30.03‡	762.7‡	.....	.....	77	25.0	91	ESE	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 11° 32', W. 87° 16'.....†		29.93‡	760.2‡	80	26.7	91	SSE			3–5		10		S	1.59 in. or 38.6mm	Small	S	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, N. 37° 58', W. 122° 58'..†		29.86‡	758.4‡	56	13.3		NW			6		4†		NW	0	Heavy	NW	Overcast	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S.S. Gaelic, Capt. Davidson, N. 22° 13', E. 114° 43'....†		29.67‡	753.6‡	86	30.0		Var.			2		ks		SW	Slight	Smooth		Showery	J .A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 37° 38', E. 153° 00'.....		29.92‡	760.0‡	64	17.8	100	WNW			3		10n				2	W	Rain & fog..	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.49‡	749.0‡				WNW			6		5		WNW				Cloudy†	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.36‡	745.7‡	76	24.4	95	NW			6		5		NW	0			Fair	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 30° 00′, W. 85° 54′		30.14‡	765.6‡	82	27.8	79	E	12	5.4			2k		E	0	Rough	E	Clear.	Capt. James Jorgensen.
Schooner Charley Buck,																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.09‡	764.3‡				E			5		2		E	0	Mod'ate			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
W. D. Hilton.																			Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith.																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 4, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.10	764.5	68.2	20.1		NW			1		2			0	0	Fair	
Nemours			30.01	762.3	82.0	27.8	74	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			29.99	761.8	81.3	27.4	61	N			3		0			0	0	Clear	Tourillere.
La Calle			30.02	762.4	75.9	24.4	90	ENE			5		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.07	763.9															
Tebessa			30.00	762.1	92.3	33.5	10	NNW			4		0			0	0	Clear	Herbin.
Geriville			30.00	762.0	91.9	33.3	28	W			4		2			0	0	Fair	Watrin.
Laghouat			30.03	762.7	86.7	30.4	32	SSE			3		2			0	0	Fair	Brugnlaux.
Biskra			29.98	761.4	100.0	37.8	25	SW			3		0			0	0	Clear	Bertrand.
			29.93	760.1	80.6	27.0	38	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.22	742.1	29.73	755.1	84.2	29.0	38	SE			4	*2				0.020	0.5		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.97	735.8	29.69	754.2	78.4	25.8	46	SSE			2	2				0.264	6.7		Dr. Wierzbiski.
Eperies	28.91	734.2	29.74	755.3	76.3	24.6	60	S			3	0				0	0		Julius Mikolik.
Gratz	28.56	725.5	29.76	755.8	73.8	23.2	69	SE			2	2				0	0		Andreas Rospini.
Hermannstadt	28.44	722.3	29.76	756.0	88.8	28.8	46	SSE			2	5				0	0		Prof. A. Gottschling.
Kremsmünster	28.52	724.5	29.84	757.8	61.0	16.1	83	W			3	10				0	0		Prof. C. Wagner.
Lemberg	28.80	731.4	29.74	755.3	72.3	22.4	66	SW			2	7				0	0		Dr. T Stanecki.
Pola	29.71	754.6	29.82	757.4	81.3	27.4	55	SSW			1	0				0	0		I.R.HydrographicOffice.
Szathmar	29.39	746.6	29.83	757.7	79.9	26.6	58	NW			3	2				0	0		Julius Csics, S. J.
Szegedin	29.50	749.3	29.76	756.0	78.4	25.8	60	S			1	0				0	0		Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	82.2	27.9	55	W			1	1				0	0	Almost clear	P. Busin.
Vienna	29.02	737.2	29.76	755.9	77.0	25.0	57	SE			2	0				0	0		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Pasaau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.26	743.2	29.36	745.7	58.8	14.9	.....	W	13	5.8	.....	.....	8	.....	.....	0.110	2.79	Overcast	W. Boswell.
Ardrossan	29.47	748.5	29.49	749.0	53	11.7	.....	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.44	747.8	29.66	753.4	53.7	12.1	.....	W	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.60	751.8	56.0	13.3	.....	W	41	18.3	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.59	751.6	54.6	12.6	.....	W	50	13.4	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.17	740.9	29.56	750.8	57.0	13.9	.....	W	.....	.....	4	.....	10	.....	.....	0.02	0.5	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	30.01	762.2	30.04	763.0	84	28.9	.....	E	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.56	750.8	29.66	753.4	53.5	11.9	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Thunder.....	H. Todd.
Cardington	.....	.....	29.65	753.1	60.0	15.6	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.57	751.1	29.70	754.4	58.7	14.8	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	J. Carmell, Sapper. R. E.
Donaghadee	29.56	750.8	29.61	752.1	54	12.2	.....	NNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.68	753.9	29.71	754.6	59	15.0	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	Showery.....	J. Costello.
Falmouth, Observatory	29.70	754.4	29.92	760.0	59.3	15.2	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier (Natal)	27.84	707.1	30.12	765.0	63.2	17.3	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.76	755.9	58	14.4	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.91	759.7	29.96	761.0	75.9	24.4	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.26	743.2	29.46	748.3	54.8	12.7	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean. [C.
Great Yarmouth	29.58	751.3	29.58	751.3	59	15.0	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	Raining.....	G. T. Watson.
Greenwich, Royal Obs'y	29.52	749.8	29.69	754.1	60.3	15.7	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff, for G.B.Airy.
Guernsey	29.69	754.1	29.91	759.7	60	15.6	.....	WSW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.87	758.7	29.99	761.7	62	16.7	.....	NW	.....	.....	6	.....	3ck	.....	.....	0.03	0.8	Fine.....	M. P. Moyle.
Holyhead	29.67	753.6	29.69	754.1	56	13.3	.....	W	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.66	753.4	29.96	761.0	57.7	14.3	.....	W	.....	.....	7	.....	7	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.67	753.6	29.70	754.4	60.1	15.6	.....	W	22	9.8	.....	.....	7	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.32	744.7	29.57	751.1	56.3	13.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.82	757.4	29.99?	761.7?	85	29.4	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.26	743.2	29.34	745.2	58	14.4	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Covered...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.10	764.5	83.0	28.3	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.44	747.8	29.63	752.6	60.3	15.7	.....	SW	.....	.....	4	.....	10cks;dk;ks	.....	W	0.121	3.08	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.14	740.1	29.65	753.1	55.3	12.9	.....	WSW	.....	.....	4–5	.....	10	.....	.....	Blank	Blank	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.71	754.6	59	15.0	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.79	756.7	29.87	758.7	62.2	16.8	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Prince Town	28.42	721.9	29.89	759.2	51.2	10.7	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Fine	W. H. Tooker.
*Roche's Point	29.80	756.9	29.90	759.4	57	13.9	.....	NW	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.64	752.8	29.80	756.9	57	13.9	.....	W	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.32	744.7	54.3	12.4	.....	W	14	6.3	.....	.....	10	.....	.....	.....	.....	Showery.....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.08	753.9	29.74	755.4	97.0	36.1	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	29.32	744.7	29.60	751.8	58.1	14.5	.....	W	.....	.....	4	.....	8	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.49	749.0	29.52	749.8	58.7	14.8	75	W	.....	.....	6	.....	5	.....	.....	0	0	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.59	751.6	54.0	12.2	.....	WSW	26	11.6	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Rev. S. J. Perry.
Straitfield, Turgiss	29.50	749.3	29.72	754.9	57.8	14.3	.....	W	.....	.....	3–4	.....	8	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.93	760.2	29.95	760.7	62	16.7	.....	NW	.....	.....	7	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	29.92	760.0	29.94	760.5	55.7	13.2	.....	WNW	23	10.3	.....	.....	8	.....	.....	Blank	Blank	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.08	764.0	30.12	765.0	64.9	18.3	47	S	16.8	7.5	.....	0	0	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.88	758.9	44	6.7	74	NW	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.46	748.3	58.0	14.4	.....	W	.....	.....	4	.....	8k	.....	.....	0.03	0.8	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.7	73.9	23.3	63	Calm	0	0	.....	7	1	NNE	.....	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.74	755.4	29.84	757.9	46.3	7.9	80	NE	8	3.6	.....	.....	8	N	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.44	747.8	53	11.7	.....	NW	.....	.....	6	.....	10	.....	.....	0.2	5.	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.35	745.5	53	11.7	.....	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30′. E. 28° 50′	.....	.....	29.78‡	756.4‡	76.5	24.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	Capt.W.J.L. Wharton.
Agnes Wilson, N. 32° 20′, W. 78° 35′	.....	.....	30.22	767.6	80	26.7	.....	NE	.....	.....	2	.....	5	.....	.....	4	E	D. clouds.....	Capt. H. W. Dyke.
Astarte, N. 35° 40′, W. 38° 25′ *	.....	.....	30.30‡	769.6‡	79	26.1	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. Parson.
British Peer, N. 52° 15′, W. 27° 20′	.....	.....	30.02‡	762.5‡	57	13.9	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Drizzling	Capt. Raymond.
Theophane, S. 36° 05′, E. 22° 10′	.....	.....	30.31‡	769.9‡	63.2	17.3	.....	ENE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.25	666.7	29.97	761.2	67.1	19.5	93	SE	.....	.....	1	8ck;cs;d	.....	.....	.....	0.5	13.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.32	744.8	29.37	746.0	59.4	15.2	68	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	29.36	745.8	29.38	746.3	58.5	14.7	78	WSW	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.37	746.1	29.42	747.2	43.2	6.2	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	.....
Stykkisholm (Iceland)	29.64	752.9	29.69	754.0	45.9	7.7	69	NE	.....	.....	7	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.27	743.4	29.30	744.3	53.6	12.0	85	E	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.11	739.3	29.22	742.1	51.4	10.8	97	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.43	747.5	29.98	761.5	60.8	16	75	WSW	.....	.....	3	.....	5	.....	W	0.169	4.3	Cloudy	Collignon, Director.
Amiens, Normal School	29.71	754.6	29.82	757.3	61.9	16.6	79	SW	.....	.....	5	.....	8	.....	E	0.181	4.6	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.55	750.6	29.80	757.0	59.7	15.4	61	WNW	.....	.....	5	.....	.....	.....	WNW	0.240	6.1	.....	Klein, Commandant.
Avignon, Normal School	29.91	759.8	29.99	761.8	71.6	22	49	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Girard, Director.
Bar-sur-Seine	29.40	746.8	29.95	760.6	62.6	17.0	59	WSW	.....	.....	2	.....	8kn	.....	W	0.354	9.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.61	752.0	29.87	758.7	59.4	15.2	73	WSW	.....	.....	2	.....	8	.....	W	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.13	739.8	30.00	762.1	62.1	16.7	69	W	.....	.....	3	.....	5	.....	SW	0.299	7.6	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.21	741.9	30.14	765.5	63.5	17.5	67	W	.....	.....	5	.....	5cn	W	W	0.16	4.	Cloudy	Marlot, Director.
Bourges, Normal School	29.45	748.0	30.00	762.0	60.3	15.6	87	WNW	.....	.....	5	.....	2ck	WNW	WNW	0.04	1.	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.75	755.6	29.99	761.8	63.5	17.2	60	W	.....	.....	3	.....	4	.....	W.	0.059	1.50	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.45	748.0	30.00	762.0	60.3	15.6	87	WNW	.....	.....	5	.....	2ck	WNW	WNW	0.04	1.	Slightly cl'dy	M. Gence, Director.
Caen, Normal School	29.72	754.8	30.13	765.2	65.1	18.4	62	WNW	.....	.....	2	.....	5	SE	NW	0.04	1.	Cloudy	September, Dir.
Chartres, Normal School	29.82	757.3	29.89	759.2	64.4	18	59	W	.....	.....	2	.....	.....	.....	W	0.24	6.	.....	Lair, Director.
Châlons-sur-Marne, N. Sch'l	29.36	745.8	29.92	760.0	61.5	16.4	94	W	.....	.....	3	.....	9	.....	E	0.47	12.	Raining	Vergier, Director.
Clermont-Fd., Puy de D. Ob	29.59	751.5	29.90	759.4	62.6	17.0	55	W	.....	.....	3	.....	8	SW	SW	0	0	Very cloudy	Jadot, Director.
Commercy, Normal School	28.71	729.1	30.04	762.9	64.2	17.9	58	W	.....	.....	2	.....	8	.....	W	0.012	0.3	.....	Alluard, Director.
Commune de Gréasque*	29.05	737.8	29.89	759.3	61.5	16.4	58	SW	.....	.....	1	.....	5ck	SW	SW	0.122	3.1	Cloudy	Dr. Coulet, Director.
Grenoble, Normal School	28.89	733.9	30.04	762.9	74.1	23.4	43	N	.....	.....	3	.....	8	.....	NE	0	0	.....	L. Kina, Director.
La Roche-sur-Yon, N. School	29.31	744.4	30.07	763.8	60.1	15.6	81	N	.....	.....	1	.....	kn	.....	W	0.169	4.3	.....	Ablard, Director.
Le Mans, Normal School	29.87	758.8	30.09	764.2	64.4	17.8	69	W	.....	.....	1	.....	5	.....	SE	0.260	6.6	Cloudy	Mouillot, Director.
Lens-Le-Saulnier, N.School	29.70	754.3	30.00	762.0	62.1	16.7	64	NW	.....	.....	5	.....	5	.....	NW	0.39	10.	Cloudy	Poirrier, Director.
Lorient, Naval Observatory	29.14	740.1	30.04	762.9	64.4	17.9	56	W	.....	.....	3	.....	8k	.....	NNW	0.209	5.30	Very cloudy	A. Baudry, Director.
Mâcon, Normal School	29.97	761.1	30.07	763.6	62.2	16.8	68	W	.....	.....	6	.....	.....	NW	W	0.059	1.5	.....	Lt. T. Carré, Director.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Mirecourt, Normal School	29.05	753.2	29.92	759.9	77.9	25.5	47	NW	.....	.....	0	.....	7	.....	.....	0	0	.....	E. Stephan, Director
Mont-Louis	28.89	733.7	29.92	759.9	59.0	15	78	SW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Barbier, Director
Nismes, Normal School	24.94	633.4	30.25	768.4	53.6	12.0	64	ENE	32.0	14.3	.....	.....	1	.....	NE	0	0	.....	M. Cave.
Paris, Montsouris Obs'y	29.85	758.1	30.04	763.1	74.1	23.4	41	NW	.....	.....	6	.....	8	.....	SW	0	0	Very cloudy	M. Boyer, Director.
Pic du Midi (Summit) H. P	.....	.....	29.62	752.4	63.0	17.2	72	WSW	.....	.....	3	.....	5	.....	W	0.102	2.6	.....	Marie Davy, Director
Pic du Midi (Plantade) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Perpignan	22.62	574.6	.....	.....	39.6	4.2	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Gen'l de Nansouty.
Privas, Normal School	29.98	761.5	30.08	764.1	65.8	18.8	54	N	18.6	8.3	.....	.....	9	NW	.....	0	0	.....	Dr. Fines.
Puy de Dome (Summit) Obs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cautier, Director.
Rochefort, Naval Obs'y	25.16	639.0	.....	.....	41.5	5.2	81	W	.....	.....	3	.....	8	.....	.....	0.130	3.3	.....	Alluard, Director.
Rouen, Normal School	30.10	764.5	30.13	765.3	67.1	19.5	53	W	.....	.....	2	.....	8	W	W	0.24	6.	¾ covered	Lt. E. Decante, Director.
Saint Malo (Port) Obs'y	29.89	757.0	29.89	759.2	60.6	15.9	62	W	.....	.....	5	.....	8	.....	W	0.098	2.5	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.95	760.6	29.98	761.4	61.3	16.3	82	W	.....	.....	3	.....	1	WSW	WSW	0.070	1.78	Clear	Lt. Herconet, Director.
Tarbes, Normal School	29.74	755.5	29.91	759.7	63.7	17.6	63	WSW	.....	.....	3	.....	2	.....	W	0.110	2.8	.....	E. Renon, Director.
Toulouse, Observatory	29.07	738.3	30.13	765.2	68.7	20.4	89	W	.....	.....	2	.....	10	.....	.....	0.12	3.	Raining	P. Hugnet, Director.
Tours	29.47	748.6	30.20	767.0	64.4	18.0	65	NW	.....	.....	3	.....	9	.....	.....	0	0	.....	M. Juller Mercadier.
Versailles, Observatory	29.79	756.7	29.99	761.7	67.6	19.7	42	WNW	.....	.....	5	.....	7	.....	WNW	0.280	7.1	.....	Cousin-Marquet.
Villefranche-sur-Saone, N.S.	29.42	747.2	29.91	759.8	60.1	15.6	69	W	.....	.....	3	.....	.....	.....	.....	0.097	2.48	.....	Dr. A. Berigny, Director
SUB-SERIES.	29.33	745.0	30.03	762.8	67.5	19.7	56	WNW	.....	.....	2	.....	2	.....	E	0.059	1.5	Slightly cl'dy	Nicot, Director.
Fort de France, Martinique	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lyons Obs'y (Park Station)	29.91	759.6	29.93	760.3	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.58	40.	.....	L'Abbé Marchési.
Nice	29.42	747.2	30.02	762.5	68.4	20.2	57	NW	.....	.....	1	.....	5	.....	WNW	0.016	0.4	Cloudy	Ch. André, Director.
Zi-Ka-Wei (near Shanghai)	.....	.....	29.86	758.5	75.6	24.2	66	WSW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Dr. A. Nieuce, Jr.
.....	29.71	754.7	29.74	755.4	77.0	25.0	93	E	10.5	4.7	.....	3cs	.....	.....	.....	0	0	Cloudy	Marc Decheyrens
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in we ther column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. [1-]	Clouds. Amount. Up'er [0-10]	Clouds. Amount. Low'r [0-10]	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.9	29.81	757.2	64.2	17.9	65	SW	.....	.....	4	.....	8	SW	.....	0.138	3.5	Raining.....	Prof. Dr. Hoh.
Berlin	29.51	749.6	29.68	753.8	64.4	18.0	63	S	.....	.....	4	.....	9	.....	.....	0.055	1.4	.....	Prof. Dr. Arndt.
Breslau	29.22	742.1	29.74	755.4	70.0	21.1	60	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Rainy.....	Royal University Obs'ty.
Carlsruhe	29.43	747.6	29.85	758.2	64.4	18.0	60	SW	.....	.....	4	.....	10	SW	.....	0.303	7.7	.....	Albert Sena.
Cassel	29.14	740.2	29.75	755.6	67.3	19.6	48	W	.....	.....	4	.....	5	SW	.....	0.079	2.00	.....	Dr. H. Möhl.
Crefeld	29.54	750.3	29.70	754.4	63.5	17.5	64	W	.....	.....	6	.....	6k	.....	.....	0.39	10.	.....	Director Lose.
Emden	.....	.....	29.59	751.6	62.2	16 8	65	WNW	.....	.....	3	.....	5	.....	.....	0.461	11.7	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.44	747.8	29.80	756.9	67.3	19.6	.....	W	.....	.....	4	.....	4	.....	.....	0.039	1.0	.....	Physical Society.
Freienwalde on the Oder	29.59	751.6	29.63	752.6	69.1	20.6	47	W	.....	.....	6	.....	6ks	W	.....	0.039	1.0	.....	Dr. Assmann.
Friedrichshafen	28.56	723.9	29.91	759.8	60.3	15.7	79	SW	.....	.....	6	.....	10	WSW	.....	0.260	6.6	.....	M. Wilhelm.
Hamburg	29.50	749.2	29.57	751.0	60.6	15.9	76	WSW	.....	.....	7	.....	9n	.....	.....	0.280	7.1	Rain & hail.	Captain F. Hegemann.
Kiel	29.48	748.9	29.50	749.3	62.1	16.7	62	W	.....	.....	7	.....	7	.....	.....	0.258	6.54	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.47	748.5	29.55	750.5	68.7	20.4	54	S	.....	.....	4	.....	6	.....	.....	0.028	0.7	.....	Prof. E. Luther.
Köslin	.....	.....	29.51	749.6	62.8	17.1	.....	SW	.....	.....	4	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.31	744.4	29.71	754.7	68.4	20.2	78	WSW	.....	.....	5	.....	9	W	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.55	750.5	29.60	751.7	67.1	19.5	56	S	.....	.....	3	.....	10s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.98	713.2	29.93	760.3	55.8	13.2	88	W	.....	.....	1	.....	10	W	.....	0.213	5.4	Rainy	Dr. C. Larg.
Neufahrwasser	29.51	749.5	29.52	749.9	71.2	21.8	54	SSE	.....	.....	4	.....	9	.....	.....	0.256	6.5	.....	A. Lothes.
Posen	29.40	746.8	29.68	753.8	70.0	21.1	61	WSW	.....	.....	5	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.37	746.1	29.91	759.7	64.0	17.8	50	W	.....	.....	4	.....	9	WSW	.....	0.076	1.97	Raining	Imp. University Observatory.
Stuttgart	28.89	733.9	29.81	757.1	63.9	17.7	69	W	.....	.....	2	.....	8	W	.....	0.959	1.5	Raining...	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.37	720.5	29.85	758.2	58.1	14.5	71	WSW	4	2	.....	.....	10	.....	WNW	0.130	3.3	.....	T. Hopfner.
Wustrow	29.50	749.4	29.53	750.0	62.2	16.8	67	SW	.....	.....	6	.....	5s	.....	.....	0.154	3.9	.....	L. Schultz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.42	747.3	29.79	756.6	97.7	36.5	.....	SW	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.46	748.2	29.51	749.5	85.9	29.9	71	WNW	.....	.....	.....	.....	5	.....	WNW	0	0	D. clouds.....	
Deesa	29.10	739.2	29.57	751.0	86.7	30.4	65	SSW	21.4	9.6	.....	.....	9	.....	SW	0.02	0.5	D. clouds.....	
Bombay	29.07	753.7	29.71	754.6	81.7	27.6	91	WSW	19.0	8.5	.....	.....	10	.....	W	0.24	6.1	Overcast.....	
Poona	27.88	708.1	29.73	755.2	77.0	25.0	76	W	.....	.....	.....	.....	7	E	W	0.02	0.5	D. clouds.....	
Lahore	28.68	728.5	29.39	746.5	97.2	36.2	50	Calm	1.6	0.8	.....	.....	2	.....	.....	0	0	Blue sky.....	
Belgaum	27.26	692.4	29.84	757.8	67.2	19.6	95	W	15.0	6.7	.....	.....	10	.....	SW	0.79	20.1	Raining	
Roorkee	28.55	725.0	29.42	747.4	83.6	28.7	77	NW	3.2	1.4	.....	.....	6	.....	.....	1.03	26.2	.....	
Agra	28.80	731.5	29.35	745.6	84.2	29.0	83	W	.....	.....	.....	.....	4	.....	W	0	0	.....	
Nagpur	28.52	724.3	29.55	750.4	81.3	27.4	79	WSW	6.9	3.1	.....	.....	10	.....	E	0.57	14.5	Gloomy.....	
Lucknow	29.06	738.2	29.43	747.6	84.3	29.1	83	S	3.0	1.3	.....	.....	10	.....	.....	0.20	5.1	Drizzling.....	
Allahabad	29.16	740.6	29.47	748.4	81.1	27.3	96	NW	3.0	1.3	.....	.....	10	.....	.....	0.58	14.7	Overcast.....	
Patna	29.25	742.9	29.43	747.4	82.5	28.1	89	E	0.2	0.1	.....	.....	10	E	E	0.06	1.5	Overcast.....	
Hazaribagh	27.48	697.9	29.48	748.4	77.8	25.4	87	WSW	5.8	2.6	.....	.....	10	.....	.....	0.07	1.8	Showery.....	
Cuttack	29.44	747.7	29.52	749.8	80.2	26.8	85	SSW	5.0	2.2	.....	.....	9	.....	.....	0.05	1.3	D. clouds.....	
Calcutta (Alipore)	29.45	748.0	29.47	748.5	84.2	29.1	79	S	7.0	3.1	.....	.....	8	S	.....	0	0	D. clouds.....	
Goalpara	29.09	739.0	29.48	748.7	81.8	27.7	83	WNW	6.9	3.1	.....	.....	8	NNW	.....	1.69	42.9	D. clouds.....	
Chittagong	29.46	748.3	29.56	750.7	80.7	27.1	87	SE	7.1	3.2	.....	.....	7	.....	.....	0	0	Misty.....	
Sibsagar	29.16	741.0	29.60	749.4	84.3	29.1	78	SSE	1.8	0.8	.....	.....	10	.....	.....	0.05	1.3	D. clouds.....	
Jubbulpore	28.17	715.4	29.52	749.8	78.8	26.0	66	W	4.3	1.9	.....	.....	9	.....	E	1.07	27.2	Overcast.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0,011 inch, or 0,28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,646.2 ft., or 663.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,365 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. nches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.41	747.0	29.80	757.0	84.7	29.3	40	SE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.28	743.6	29.77	756.1	81.3	27.4	41	SW	.....	.....	1	.....	7	WSW	.....	0.291	7.4	.....	Prof. Schiaparelli.
Padua	29.67	753.6	29.78	756.3	82.4	28.0	44	S	3.1	1.4	.....	.....	5	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.88	733.6	29.75	755.6	77.7	25.4	45	NNE	3.1	1.4	.....	.....	8	ENE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.69	754.0	29.87	758.7	72 7	22.6	73	SE	16.1	7.2	.....	.....	4	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.91	709.0	29.75	755.6	76.6	24.8	60	NE	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.75	755.7	29.80	756.9	80.6	27.0	52	E	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.65	753.1	29.90	759.4	81.5	27.5	44	SW	.....	.....	4	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.82	757.4	29.90	759.5	77.7	25.4	64	SSW	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.75	755.6	29.92	759.9	88.7	28.7	52	W	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.66	753.3	29.90	759.5	85.1	29.5	43	N	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.04	737.5	29.87	758.7	85.8	29.9	59	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.67	753.7	29.94	760.4	84.4	29.1	34	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.72	754.9	29.97	761.1	76.8	24.9	60	NE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.82	757.5	29.89	759.3	81.9	27.7	52	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.42	747.2	29.97	761.3	81.1	27.3	60	SSE	5.6	2.5	.....	.....	5	E	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	77.1	25.1	86	SW	13.6	6.1	.....	.....	10s;ks	.....	SW	0.710	18.03	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	76.0	24.4	91	S	14.3	6.4	.....	.....	10n	.....	.....	0.670	17.02	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.85	758.2	29.91	759.7	77.9	25.5	80	SSW	13.6	6.1	.....	9cs;ck	.....	SW	.....	0.070	1.78	.....	The Staff.
Wakayama	29.90	759.4	29.95	760.7	79.4	26.3	82	S	15.6	7.0	.....	8ks;cs;s	W	SSW	0.030	0.76	Cloudy.....	.....	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.4	30.04	763.0	69.9	15.6	74	SE	.....	.....	1	.....	10	.....	E	0	0	Covered	Prof. L. Perez.
Leon	24.44	620.8	30.05	763.3	64.9	18.3	90	S	.....	.....	1	3c	5s	NE	.....	0.604	0.1	Cloudy.....	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.4	30.04	762.9	57.9	14.4	86	NW	3.4	1.5	.....	6k	0	E	.....	0.02	0.5	Cloudy.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	64.4	18.0	81	Calm	.....	.....	0	9ks	0	.....	.....	0.65	16.4	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.91	759.6	29.92	759.9	81.0	27.2	85	NE	.....	.....	1	4	3	NE	N	0	0	Cloudy.....	Prof. M. M. Chàsaro.
San Luis Potosi	24.22	615.1	30.11	764.9	63.0	17.2	78	E	.....	.....	1	.....	10	.....	E	0.32	8.0	Covered.....	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.57	573.2	30.13	765.4	56.5	13.6	94	NE	.....	.....	8	0	Fog	.....	SE	0.87	22.0	Dense fog....	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	56.3	13.5	94	Calm	0	0	.....	9ck	0	NE	.....	0	0	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.66	753.3	29.95	760.7	73.9	23.3	99	SE	.....	.....	2	.....	10	.....	SE	0.87	22.0	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.71	754.5	29.71	754.5	61.3	16.3	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.244	6.2	.....	
Groningen	29.54	750.2	29.59	751.6	.....	.....	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.500	12.7	.....	
Helder	29.58	751.4	29.58	751.4	59.0	15.0	.....	WSW	.....	.....	5	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	29.63	752.6	29.63	752.6	60.8	16.0	74	WSW	.....	.....	7	.....	.....	.....	.....	0.118	3.0	.....	
Utrecht	29.61	752.2	29.66	753.4	63.5	17.5	61	WSW	.....	.....	5	5	.....	.....	.....	0.047	1.2	Cloudy.....	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.30	744.3	29.36	745.7	60.8	16.0	56	W	12.3	5.5	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.41	746.9	29.45	747.9	60.8	16.0	59	SSE	27	12	.....	.....	8	.....	.....	0.059	1.5	.....	
Christiania	29.30	744.2	29.44	747.8	63.9	17.7	54	ENE	7	3	.....	.....	10	.....	.....	0.004	0.1	.....	
Tromsö	29.62	752.4	29.67	753.5	71.6	22.0	42	NE	13	8	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbo
The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.17	766.3	30.36	771.1	71.6	22.0	81	W	0.7	0.3	.....	.....	6	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio
Campo Major	29.05	737.9	30.01	762.3	89.6	32.0	26	W	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Sa
Funchal (Madeira)	30.10	764.5	30.19	766.7	72.9	22.7	64	SW	8.1	3.6	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cu
Lisbon, Observatory	29.79	756.6	30.14	765.5	73.2	22.9	47	N	24.8	11.1	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28?	769.1?	30.31?	769.9?	71.6	22.0	69	ENE	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amou
of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0--	Sea or swell. Direction from--		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Co
D. Fernando	.....	.....	.....	A.M.de Sande,Coi
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea	4	SSW	Blue sky	H. C. e Athayde.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	wsw	D. clouds	J.C. M. Cabrate, 1
Rio Duro	.....	.....	.....	J.T.d'Oliveria,Coi
Rio Lima. Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island	1	.....	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Coi
Sado	.....	.....	.....	L. Ribeiro de Costa, Com
Tejo, Capt. J. M. T. Guimaraes. Macao, China	3	SW	Raining. 10 hr's rain-fall.	J.G. Felgo 2nd L

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is give
The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.28	743.7	29.68	763.9	73.0	22.8	52	WSW	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.28	743.7	29.68	763.9	71.2	21.8	45	SW	7	3	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs
Dorpat	29.37	745.9	29.60	751.8	67.8	19.9	56	WSW	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrai
St. Petersburg	29.55	750.6	29.57	751.0	63.9	17.7	55	E	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical
Kieff	29.12	739.6	29.73	755.1	68.7	20.4	43	NW	16	7	.....	.....	1k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.72	754.9	29.79	756.7	77.7	25.4	53	N	18	8	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.11	739.3	29.63	752.6	70.2	21.2	44	N	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Ob
Lugan	29.41	747.0	29.61	752.1	68.2	20.1	95	E	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Ob
Archangel	29.71	754.5	29.72	755.0	46.6	8.1	74	NW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Ssoliwersto
Tiflis	28.40	721.4	29.73	755.2	77.2	25.1	61	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observa
Astrakhan	29.76	755.9	29.68	753.8	81.1	27.3	37	ENE	7	3	.....	.....	1cs;k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.07	738.4	29.53	750.1	59.5	15.3	62	NNW	7	3	.....	.....	4ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.19	741.3	29.45	747.9	60.4	15.8	52	NW	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.14	714.7	29.06	738.0	57.6	14.2	85	SSW	4	2	.....	.....	9n	.....	.....	.....	.....	.....	Meteorological Ob
Nukuss	29.63	752.5	29.85	758.1	82.8	28.2	44	NNW	9	4	.....	.....	2s	.....	.....	.....	.....	.....	
Tashkend	28.06	712.6	29.50	749.3	89.2	31.8	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.13	739.8	29.60	751.8	73.9	23.3	53	SW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Ob
Yeniseisk	29.36	745.7	29.63	752.5	89.1	31.7	79	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.58	751.4	29.72	755.0	81.1	27.3	77	SE	4	2	.....	.....	8k	.....	.....	.....	.....	Thunder-storm.	Physical Observa
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Ob
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather l
the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 f
Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.3	30.00	761.9	76.6	24.8	64	SSE	4.7	2.11	.....	.....	4	.....	.....	0	0	.....	Antonio Rave, Dir
Bilbao, Met. Obs'y	30.19	766.7	30.24	768.1	71.6	22.0	48	NW	4.5	2.02	.....	3	2	NE	.....	0.047	1.2	Cloudy	Prof. Manuel de Na
Burgos, Met. Obs'y	27.22	691.3	.....	.....	59.0	15.0	75	N	7.0	3.15	.....	.....	4	.....	.....	0	0	Cloudy	Domingo Martin y
Madrid, Royal Osservatory	27.82	706.5	29.88	759.0	92.1	33.4	29	SW	12.7	5.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.75	756.5	29.93	760.1	98.6	37.0	63	S	3.2	1.44	.....	0	1	.....	.....	0	0	Clear	Olayo Diaz, Direct
Santiago, Met. Obs'y	29.30	744.3	30.19	766.7	63.7	17.6	58	N	8.7	3.9	.....	.....	7	.....	.....	0.047	1.2	Cloudy	R. Gil Villanueva,
Sub-Series.																			
Havana, Cuba, W. I	30.03	762.6	30.09	764.3	78.1	25.6	84	Calm	0	0	.....	6cs;ck	0	W	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.85	758.2	82.3	27.9	86	NW	0	0	.....	3ck	3k	E	W	0	0	Very cloudy	Federico Faura, S.
San Fernando, Naval Obs'y	29.96	760.9	30.06	763.4	76.8	24.9	60	WNW	8.5	3.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., I
San Juan de Porto Rico, W.I	29.99	761.8	30.08	764.1	83.1	28.4	77	E	9.3	4.15	.....	2cs	2k	E	E	0.512	13.00	Clear	Leonardo deTejeda, Ch'f

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan
measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago t
barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.79	756.6	29.83	757.6	72.5	22.5	.....	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.69	751.5	29.64	752.8	69.4	15.8	59	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	29.46	748.2	29.51	749.5	54.7	12.6	98	NE	.....	.....	2	.....	10	.....	.....	0.567	14.4	.....	
Stockholm	29.32	744.6	29.49	749.1	65.1	18.4	55	SSE	.....	.....	3	.....	3	.....	.....	0.354	9.0	.....	
Wisby	29.44	747.8	29.59	749.3	61.9	16.6	68	S	.....	.....	6	.....	10	.....	.....	0.067	1.7	.....	
Sub-Series.																			
Upsala	29.37	746.0	29.46	748.2	66.9	19.4	59	SE	10.5	4.7	.....	.....	6	.....	ESE	0.089	2.36	Raining.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 37° 17', W. 0° 52'	.....	.....	30.07	763.6	79.7	26.5	.....	SW	. .....	....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	30.02	762.6	69.4	15.2	80	SSW	.....	.....	1	.....	10	.....	.....	0.858	21.8	Covered.....	The Observatory.
Zurich	28.35	720.0	29.98	761.5	65.0	12.8	96	NW	.....	.....	4	.....	10	.....	.....	0.827	21.0	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.6 mm.; Thermometer, -7.0 Cent.; Relative Humidity, +27 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.8	89.6	32.0	39	NE	4	2.0	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	761.9	83.8	28.8	.....	W	.....	.....	1	.....	0	.....	....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.56	750.8	29.67	753.6	91.9	33.3	54	SW	.....	.....	2	.....	7s	.....	SE	0	0	D. clouds....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chatham, N. B	29.52	749.8	29.58	751.3	58	14.4	87	NE	5	2.2	.....	.....	10n	.....	W	0.04	1.0	Light rain...	W. R. Bigg.
Charlottetown, P. E. Island	29.55	750.6	29.59	751.6	66	18.9	78	SE	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy.....	G. A. Bian.
Cornwall, Ontario	29.88	746.2	29.56	750.8	76.8	24.9	65	W	.....	.....	0	0	0	.....	.....	0.123	3.18	Cloudy.....	H. J. Cundall, C. E.
Dalhousie, N. B	29.45	748.0	29.61	752.1	51	10.6	94	E	.....	.....	3	.....	10n	.....	.....	.....	.....	Raining	James Smith, M. A.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
*Father Point, Quebec	29.66	750.8	29.68	751.3	48	8.9	93	NE	40	17.9	.....	.....	10n	....	NE	0	0	.....	W. H. Bevis.
Fredericton, N. B	29.53	750.0	29.59	751.6	76.4	24.7	76	SW	8	3.6	.....	10cs	0	.....	.....	0.46	11.7	Light rain...	J. McWilliams.
*Fort Garry, Manitoba	29.28	743.7	30.09	764.3	58	14.4	88	N	8	3.6	.....	2ck	5ks	N	N	0.21	5.3	Dust-haze....	Prof. Harrison.
Granton, Ontario	29.28	743.7	30.09	764.3	58	14.4	88	N	8	3.6	.....	2ck	5ks	N	N	0.175	4.45	Fair	James Stewart.
*Halifax, N. S	28.77	730.7	29.81	757.2	73	22.8	85	W	.....	.....	2	.....	10n	.....	....	0.08	2.0	Overcast....	James Grant.
Hamilton, Ontario	29.68	751.3	29.69	754.1	75	23.9	75	W	2	0.9	.....	8cs	0	.....	.....	0	0	Fair.....	F. Allison, M. A.
Heart's Content, N. F	29.45	748.0	29.79	756.7	76.6	24.8	80	NW	.....	.....	1	10cs	0	NW	.....	0.19	4.8	Cloudy.....	Geo. Dickson, A. M.
*Kingston, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Little Glace Bay, N. S	29.39	746.5	29.70	754.4	76	24.4	73	W	15	6.7	.....	5ck	Haze	W	.....	0	0	Fair.....	S. Woods, M. A.
Moose Factory, Ontario	29.58	751.3	29.62	752.3	58.5	14.7	82	S	3	1.3	.....	6cs	0	S	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Parry Sound, Ontario	29.37	746.0	29.66	750.8	76	24.4	66	SW	20	8.9	.....	2c	8ks	.....	NW	0.05	1.3	Cloudy.....	C. H. McLeod, C. E.
Peterboro, Ontario	29.11	739.4	29.78	756.4	62	16.7	82	N	20	8.9	.....	5k	5ks	N	W	0.32	8.1	Cloudy.....	Rev. R. Mosley.
Port Dover, Ontario	29.02	737.1	29.73	755.1	76.5	24.7	75	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	Cloudy.....	J. F. Jeffers, B. A.
Port Hastings, N. S	29.15	740.4	29.81	757.2	74	23.3	90	SW	10	4.5	.....	8k	2n	SW	.....	0.05	1.3	Cloudy.....	H. Morgan.
Port Stanley, Ontario	29.59	751.6	29.64	752.8	69.6	20.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.22	742.2	29.83	757.7	75	23.9	81	W	12	5.4	.....	.....	10ks	.....	W	0	0	Cloudy.....	M. Payne.
*Rockliffe, Ontario	29.19	741.4	29.49	749.0	70	21.1	90	W	.....	.....	1	.....	10n	.....	W	0.77	19.6	Cloudy.....	Capt. Ashe, R. N.
St. Andrews, N. B	29.31	744.5	29.79	756.7	61	16.1	72	N	12	5.4	.....	2ck	2s	SW	N	0.62	15.7	Cloudy.....	W. H. McIntyre.
St. John, N. B	29.57	751.1	29.62	752.3	71	21.7	82	W	1	0.4	.....	Haze	Haze	.....	.....	0	0	Clear.....	Dr. Gove.
*Saugeen, Ontario	29.48	748.3	29.64	752.8	59	15.0	88	S	10	4.5	.....	0	9ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Stayner, Ontario	29.15	740.4	29.85	758.2	56	13.3	92	W	20	8.9	.....	.....	10ks	....	.....	0.41	10.4	Cloudy.....	K. Stewart.
Stratford, Ontario	29.09	738.9	29.85	758.2	61	16.1	94	NW	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy.....	R. J. Cole.
*Sydney, C. B	28.57	725.7	29.78	756.4	71.7	22.1	88	NW	15	6.7	.....	.....	10n;ks	.....	.....	0.293	7.45	Cloudy.....	C. J. MacGregor, M. A.
*Toronto, Ontario	29.62	752.3	29.66	753.4	61	16.1	77	NW	2	0.9	.....	10k	0	W	.....	0	0	Cloudy.....	T. C. Hill.
Windsor, N. S	29.42	747.3	29.78	756.4	75	23.9	79	W	12	5.4	.....	5ck	5ks	W	W	0.21	5.3	Cloudy.....	Magnetic Observatory.
Woodstock	29.57	751.1	29.66	753.4	79.0	26.1	82	W	3	1.3	.....	0	5ks	.....	.....	0	0	Cloudy.....	Prof. John E. Oram.
	28.77	730.7	29.78	756.4	75.4	24.1	77	SW	15	6.7	.....	5k	0	W	.....	0	0	Fair.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.41	747.0	29.65	753.1	65.0	18.3	73	SW	.....	.....	.....	5k	5s	.....	.....	0.05	1.3	Fair.....	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	751.8	29.81	757.2	79	26.1	66	S	8	3.6		1c	0	W		Inap.	Inap.	Clear	
Alpena, Michigan	29.31	744.5	29.94	760.5	62	16.7	77	N	22	9.8			10s		NE	0.35	8.9	Cloudy	
Atcha, Aleutian Is., Alaska					45	7.2	92	Calm			0	10ck	0	SW		0	0	Cloudy	
Atlanta, Georgia	29.07	738.4	30.18	766.6	77	25.0	49	SE	7	3.1		Haze	0	Calm		0	0	Clear	
Atlantic City, New Jersey	29.98	761.5	30.00	762.0	65	18.3	84	SW	11	4.9		2k	Haze	SW	Calm	0	0	Clear	
Augusta, Georgia	30.06	763.5	30.25	768.3	74	23.3	72	SE	1	0.4		0	Haze		Calm	0	0	Clear	
Baltimore, Maryland	29.99	761.7	30.04	763.0	78	25.6	50	SW	11	4.9		5c	Haze	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	79	26.1	66	SW	12	5.4		0	Haze		Calm	0	0	Clear	
Bismarck, Dakota	28.29	718.6	30.14	765.5	63	17.2	83	N	2	0.9		0	0			0.10	2.5	Clear	
Boerne, Texas	28.61	726.7	29.88	758.9	75	23.9	90	S	8	3.6		0	8ks		S	0.36	9.1	Cloudy	
Boise City, Idaho	26.80	680.7	29.76	755.9	63	17.2	57	S	3	1.3		0	5s		W	0	0	Fair	
Boston, Massachusetts	29.68	753.9	29.82	757.4	81	27.2	59	SW	14	6.3		5c	0	Calm		0.23	5.8	Fair	
Brackettville, Texas	28.87	733.2	29.85	758.2	80	26.7	74	E	9	4.0			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	29.07	738.4	30.04	763.0	59	15.0	88	W	6	2.7		5k	0	W		0.02	0.5	Fair	
Brownsville, Texas	29.92	760.0	29.96	761.0	85	29.4	76	SE	1	0.4		5ck	0	SE		0.03	0.8	Fair	
Buffalo, New York	29.13	739.9	29.78	756.4	75	23.9	72	SW	20	8.9		2ck	5s	W	W	0.02	0.5	Fair	
Burkes, Arizona					67	19.4	29	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.39	746.5	29.65	753.1	77	25.0	65	SW	14	6.3			10ks		W	0.26	6.6	Cloudy	
Cairo, Illinois	29.76	755.9	30.13	765.3	83	28.3	71	S	7	3.1		5ck	Haze	Calm		0	0	Fair	
Campo, California	27.39	693.4	29.86	758.4	44	6.7	76	E.	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.23	767.8	30.24	768.1	77	25.0	65	W	7	3.1		Haze	0	Calm		0	0	Clear	
Cape Henry, Virginia	30.09	764.3	30.11	764.8	74	23.3	63	S	17	7.6		0	2s		SE	0	0	Clear	
Cape Lookout, N. Carolina	30.21	767.3	30.23	767.8	77	25.0	69	W	12	5.4		0	0			0	0	Clear	
Cape May, New Jersey	30.00	762.0	30.03	762.7	71	21.7	80	SW	20	8.9		0	0			0	0	Clear	
Castroville, Texas	29.26	743.2	29.93	760.2	79	26.1	87	SE	4	1.8		5ck	2s	Calm	SE	1.24	31.5	Cloudy	
Charleston, South Carolina	30.17	766.3	30.22	767.6	76	24.4	73	NE	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.36	745.7	30.14	765.5	76	24.4	60	SW	10	4.5		0	Haze		Calm	0	0	Clear	
Chattanooga, Tennessee	29.41	747.0	30.19	766.8	75	23.9	68	NW	1	0.4		0	Sm'e		Calm	0	0	Clear	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	58	14.4	88	S	8	3.6			10s		S	0	0	Threatening	
Chicago, Illinois	29.35	745.5	30.02	762.5	66	18.9	74	NE	7	3.1			10s		N	0.29	7.4	Cloudy	
Cincinnati, Ohio	29.41	747.0	30.02	762.5	81	27.2	63	SW	6	2.7		0	0			0	0	Clear	
Cleveland, Ohio	29.22	742.2	29.90	759.4	78	25.6	65	SW	15	6.7		10k;ck	0	W;Calm		0	0	Cloudy	
Coleman City, Texas	28.25	717.5	29.84	757.9	73	24.4	82	SE	8	3.6		0	0			Inap.	Inap.	Clear	
Columbus, Ohio	29.17	740.9	29.95	760.7	80	26.7	59	W	12	5.4		2k	0	W		0	0	Clear	
Concho, Texas	28.04	712.2	29.61	752.1	80	26.7	66	SE	8	3.6		0	0			0	0	Clear	
Corsicana, Texas	29.67	753.6	30.12	765.0	75	23.9	95	S	8	3.6			10n		SE	0.03	0.8	Light rain	
Davenport, Iowa	29.39	746.5	30.00	762.0	73	22.8	85	W	6	2.7			10s		W	0.32	8.1	Cloudy	
Deadwood, Dakota	25.48	647.2			53	11.7	80	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.96	735.6	30.08	764.0	76	24.4	82	S	12	5.4			10s		SE	Inap.	Inap.	Cloudy	
Denison, Texas	29.33	745.0	30.10	764.5	75	23.9	90	SE	6	2.7			10s		SE	0.05	1.3	Cloudy	
Denver, Colorado	24.89	632.2	30.11	764.8	59	15.0	65	NW	2	0.9		0	Sm'e			0	0	Clear	
Des Moines, Iowa	29.20	741.7	30.05	763.3	67	19.4	84	N	6	2.7		5c	0	NW		0	0	Fair	
Detroit, Michigan	29.24	742.7	29.86	758.4	76	24.4	77	W	9	4.0			10s		W	0	0	Cloudy	
Dodge City, Kansas	27.52	699.0	29.78	756.1	68	20.0	74	SE	24	10.7			10s		SE	0.69	17.5	Cloudy	
Dubuque, Iowa	29.34	745.2	30.01	762.2	70	21.1	75	N	6	2.7			10s		Calm	0.08	2.0	Cloudy	
Duluth, Minnesota	29.36	745.7	30.02	762.5	63	17.2	89	W	4	1.8		8k	2s	NW	Calm	0.28	7.1	Cloudy	
Eagle Pass, Texa	29.21	741.9	29.89	759.2	82	27.8	71	SE	7	3.1		0	2s		Calm	0	0	Fair	
Eastport, Maine	29.56	750.8	29.62	752.3	62	16.7	77	S	5	2.2		10c;hz	Haze	SW	Calm	0	0	Hazy	
Edinburg, Texas					82	27.8	83	S			1	5c	5s	Calm	S	0	0	Fair	
El Paso, Texas	26.21	665.7			73	22.8	55	E	6	2.7		0	0			0.02	0.5	Clear	
Erie, Pennsylvania	29.17	740.9	29.84	757.9	80	26.7	59	W	15	6.7		10cs	0	W		0	0	Cloudy	
Escanaba, Michigan	29.41	747.0	30.05	763.3	60	15.6	82	N	15	6.7			10s		N	0.49	12.4	Cloudy	
Florence, Arizona	25.38	720.8	29.98	761.5	84	28.9	14	W	3	1.3		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.05	712.5			58	14.4	87	SE	8	3.6									
Fort Davis, Texas	25.25	641.3	30.21	767.3	71	21.7	62	SW	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian-Ter	29.58	751.3	30.10	764.5	80	26.7	74	S	4	1.8		5ck	0	NW		0	0	Fair	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	75	23.9	30	NE	8	3.6		0	0			0	0	Clear	
Fort Griffin, Texas	28.80	731.5	30.02	762.5	77	25.0	86	SE	10	4.5			8s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.46	697.5			62	16.7	71	NE	4	1.8			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas												0	Haze		Calm	0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.87	733.3	29.94	760.5	76	24.4	82	SE	8	3.6									
Fort Stevenson, Dakota	28.27	718.0			59	15.0	81	NE	2	0.9		10ck	0	SW		0	0	Cloudy	
Fort Verde, Arizona					55	12.8	22	NW			1	0	0			0.55	14.0	Clear	
Fort Yates, Dakota												0	0			0	0	Clear	
Fredericksburg, Texas	28.32	719.3	29.83	757.7	75	23.9	90	E	4	1.8									
Galveston, Texas	30.06	763.5	30.10	764.5	83	28.3	79	SE	6	2.7			10ks		Calm	0.20	5.1	Cloudy	
Graham, Texas	28.98	736.1	29.99	761.7	76	24.4	86	SE	4	1.8			10ks		SE	0.25	6.3	Cloudy	
Grand Haven, Michigan	29.36	745.7	29.98	761.5	67	19.4	64	NE	12	5.4			10s		SE	0	0	Cloudy	
Helena, Montana												2c	0	Calm		0.31	7.9	Fair	
Henrietta, Texas	29.10	739.1	30.00	762.0	74	23.3	90	SE	8	3.6									
Indianapolis, Indiana	29.28	743.7	30.02	762.5	78	25.6	65	W	7	3.1			10s		Calm	0	0	Cloudy	
Indianola, Texas	30.06	763.5	30.09	764.3	83	28.3	83	S	5	2.2		8ck	0	W		0	0	Fair	
Jacksboro, Texas	29.97	736.8	30.06	763.5	75	23.9	90	SE	6	2.7		5cs	5ks	Calm	S	0.02	0.5	Cloudy	
Jacksonville, Florida	30.18	766.6	30.21	767.3	79	26.1	82	NE	4	1.8			10s		S	0.97	24.6	Cloudy	
Keokuk, Iowa	29.38	746.2	29.96	761.0	73	22.8	87	N	2	0.9		5k	0	NE		0.03	0.8	Fair	
Key West, Florida	30.06	763.5	30.09	764.3	81	27.2	74	NE	6	2.7		0	7s		W	0.73	18.5	Fair	
Kittyhawk, North Carolina	30.15	765.8	30.17	766.3	74	23.3	76	SW	19	8.5		5cs	0	Calm		0.50	12.7	Fair	
Knoxville, Tennessee	29.21	741.9	30.18	766.6	75	23.9	62	W	4	1.8		0	0			0	0	Clear	
La Crosse, Wisconsin	29.33	745.0	30.05	763.3	62	16.7	83	N	6	2.7		0	Haze			0	0	Clear	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	67	19.4	60	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.46	748.3	29.78	756.4	85	29.4	47	Calm	0	0		5ck	0	NW		0	0	Fair	
Leavenworth, Kansas	29.21	741.9	30.02	762.5	72	22.2	80	NW	1	0.4		0	0			0	0	Clear	
Little Rock, Arkansas	29.83	757.7	30.17	766.3	76	24.4	86	W	2	0.9			10s		W	0.75	19.1	Cloudy	
Los Angeles, California	29.53	750.0	29.86	758.4	62.0	16.7	83	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.51	749.5	30.03	762.7	85	29.4	57	SW	8	3.6		0	0			0	0	Cloudy	
Lynchburg, Virginia	29.44	747.8	30.08	764.0	80	26.7	51	S	2	0.9		0	0			0	0	Clear	
Madison, Wisconsin	29.07	738.4	30.03	762.7	64	17.8	83	NE	8	3.6		10ks	0	SW		0	0	Clear	
Marquette, Michigan	29.39	746.5	30.08	764.0	55	12.8	68	N	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Mason, Texas	28.43	722.1	30.11	764.8	78	25.6	73	SE	8	3.6			8s		S	0.40	10.2	Cloudy	
Memphis, Tennessee	29.83	757.7	30.16	766.1	82	27.8	75	W	10	4.5		0	0	Calm		0.04	1.0	Fair	
Milwaukee, Wisconsin	29.30	744.2	30.01	762.2	63	17.2	78	N	11	4.9		2c	0	Calm		0	0	Clear	
Mobile, Alabama	30.16	766.1	30.20	767.1	76	24.4	91	NE	4	1.8		1cs	8ks	Calm	NW	1.07	27.2	Cloudy	
Montgomery, Alabama	30.00	762.0	30.23	767.5	78	25.6	73	SW	1	0.4		0	0			1.62	41.1	Clear	
												Haze	Sm'e	Calm	Calm	0.01	0.3	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. inches.	Barometer. Corrected for instrum'tal error and temperature. millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.05	737.9	29.99	761.7	77	25.0	61	SW	9	4.0	.....	2k	0	SW	.....	0	0	Fair.....	
Mt. Washington, N. H.	23.65	600.7	30.01	762.2	52	11.1	93	NW	75	33.5	.....	.....	10ks	.....	NW	0.10	2.5	Cloudy.....	
Nashville, Tennessee	29.65	753.1	30.15	765.8	86	30.0	55	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear.....	
New Haven, Connecticut	29.80	756.9	29.90	759.4	83	28.3	60	SW	6	2.7	.....	2c	Haze	Calm	Calm	0	0	Clear.....	
New London, Connecticut	29.88	758.9	29.92	760.0	76	24.4	69	SW	10	4.5	.....	2cs	Haze	Calm	Calm	0	0	Hazy.....	
New Orleans, Louisiana	30.10	764.5	30.15	765.8	82	27.8	70	E	4	1.8	.....	0	0	.....	.....	1.37	34.8	Clear.....	
Newport, Rhode Island	29.86	758.4	29.91	759.7	68	20.0	78	SW	16	7.2	.....	5cs	Sm'e	Calm	.....	0	0	Fair.....	
New York, New York	29.75	756.4	29.95	760.7	74	23.3	76	SW	12	5.4	.....	2cs	2s	Calm	Calm	0	0	Fair.....	
Norfolk, Virginia	30.08	764.0	30.14	765.5	80	26.7	55	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	27.20	690.9	29.72	754.9	60	15.6	94	NE	6	2.7	.....	0	Fog	.....	Calm	0	0	Foggy.....	
Olympia, Washington Ter.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Omaha, Nebraska	28.94	735.1	29.99	761.7	73	22.8	81	N	2	0.9	.....	0	2s	.....	Calm	0	0	Clear.....	
Oswego, New York	29.47	748.5	29.77	756.1	78	25.6	61	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Pembina, Dakota	29.20	741.7	30.01	762.2	58	13.3	94	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair.....	
Philadelphia, Pa	29.94	760.5	29.99	761.7	77	25.0	61	SW	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.03	727.2	30.56	771.1	69	20.6	22	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	34	1.1	84	SW	32	14.3	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	.....	.....	.....	.....	57	13.9	10	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.18	741.1	29.94	760.5	80	26.7	51	SW	12	5.4	.....	2c	0	W	.....	0	0	Fair.....	
Port Huron, Michigan	29.21	741.9	29.83	757.7	74	23.3	81	W	18	8.8	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Portland, Maine	29.68	753.9	29.72	754.9	79	26.1	70	SW	9	4.0	.....	5k	Haze	Calm	.....	0.02	0.5	Fair.....	
Portland, Oregon	29.80	756.9	29.88	758.9	52.0	11.1	83	S	7	3.1	.....	0	8ks;n	.....	S	0.04	1.0	Light rain...	
Prescott, Arizona	24.73	628.1	30.09	764.3	44	6.7	80	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	78	25.6	78	NE	10	4.5	.....	2cs	0	SW	.....	0.28	7.1	Clear.....	
Red Bluff, California	29.46	748.3	29.81	757.2	58	14.4	37	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.82	757.4	30.02	762.5	81	27.2	78	SE	10	4.5	.....	8c	0	Calm	.....	0	0	Fair.....	
Rochester, New York	29.18	741.1	29.76	755.9	80	26.7	69	NW	24	10.7	.....	5k	5s	NW	NW	Inap.	Inap.	Cloudy.....	
Roseburg, Oregon	29.37	746.0	29.94	760.5	51	10.6	79	N	3	1.3	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Sacramento, California	29.70	754.4	29.78	756.4	65	12.8	74	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.49	749.0	30.04	763.0	75	23.9	72	SW	4	1.8	.....	1c	Haze	SW	.....	Inap	Inap.	Clear.....	
St. Marks, Florida	30.19	766.8	30.21	767.3	75	23.9	86	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Paul, Minnesota	29.22	742.2	30.03	762.7	63	17.2	88	W	2	0.9	.....	2ck	0	W	.....	0	0	Clear.....	
Salt Lake City, Utah	25.48	647.2	29.81	757.2	63	17.2	33	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.35	746.2	29.93	760.2	80	26.7	70	SE	4	1.8	.....	.....	10s	.....	SE	0.05	1.3	Cloudy.....	
San Diego, California	29.81	757.2	29.88	758.9	62	16.7	83	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.27	743.4	29.90	759.4	78	25.6	65	W	17	7.6	.....	5ck	0	W	.....	0	0	Fair.....	
Sandy Hook, New Jersey	29.92	760.0	29.96	761.0	80	26.7	69	SW	16	7.2	.....	2c	Haze	Calm	Calm	0	0	Fair.....	
San Francisco, California	29.81	757.2	29.88	758.9	52	11.1	79	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.88	593.8	29.92	760.0	73	22.8	63	NE	4	1.8	.....	2cs	0	NW	.....	0	0	Fair.....	
Savannah, Georgia	30.16	766.1	30.25	768.3	79	26.1	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Shreveport, Louisiana	29.94	760.5	30.15	765.8	75	23.9	95	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Silver City, New Mexico	24.33	618.0	30.29	769.4	64	17.8	46	Calm	0	0	.....	5k	5s	Calm	Calm	0	0	Cloudy.....	
Smithville, North Carolina	30.22	767.6	30.25	768.3	75	23.9	77	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.40	645.2	29.47	748.5	73	22.8	41	S	5	2.2	.....	8ck	2s	W	Calm	0	0	Cloudy.....	
Springfield, Ill	29.39	746.5	30.06	763.5	75	23.9	72	SW	1	0.4	.....	2cs	1s	Calm	Calm	0.03	0.8	Fair.....	
Springfield, Massachusetts	29.74	755.4	29.86	758.4	80	26.7	74	S	3	1.3	.....	2cs	Haze	W	.....	0	0	Fair.....	
Stockton, Texas	26.96	684.8	29.90	761.0	77	25.0	31	SE	20	8.9	.....	5ck	0	Calm	.....	0	0	Fair.....	
Thatcher's Island, Mass	29.78	756.4	29.83	757.7	72	22.2	85	SW	12	5.4	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Toledo, Ohio	29.26	743.2	29.89	759.2	78	25.6	73	W	8	3.6	.....	8k	0	W	.....	0	0	Fair.....	
Tucson, Arizona	27.42	696.5	29.97	761.2	72	22.2	28	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.40	746.7	29.88	758.9	55.0	12.8	74	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Uvalde, Texas	29.09	738.9	29.86	758.4	81	27.2	74	E	5	2.2	.....	0	1ks	.....	SE	0	0	Clear.....	
Vicksburg, Mississippi	29.96	761.0	30.21	767.3	78	25.6	82	SE	6	2.7	.....	0	0	.....	.....	0.10	2.5	Clear.....	
Virginia City, Montana	24.17	613.9	29.65	753.1	58	14.4	36	SE	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Visalia, California	29.39	746.5	29.75	755.6	64	17.8	50	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.93	760.2	30.04	763.0	70	26.1	54	SW	7	3.1	.....	5c	Haze	NW	Calm	0	0	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	52	11.1	47	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	30.16	766.1	30.23	767.8	70	24.4	73	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.41	645.4	29.77	756.1	51	10.6	40	SW	7	3.1	.....	0	1s	.....	SW	0	0	Clear.....	
Wood's Holl, Mass	29.86	758.4	29.89	759.2	69	20.6	79	SW	24	10.7	.....	8cs	0	.....	.....	0	0	Cloudy.....	
Yankton, Dakota	28.83	732.3	30.08	764.0	63	17.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.08	751.3	29.74	755.4	70	21.1	40	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.02	762.5	30.07	763.8	80	26.7	78	Calm	0	0	.....	8c	0	Calm	.....	0	0	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.28	642.1	.....	.....	64.6	18.1	87	Calm	.....	.....	0	.....	10n	.....	.....	0.15	3.8	.....	Thomas Herran.
Navassa, W. I	29.95	760.7	30.03	762.7	80	26.7	75	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.08	764.0	30.09	764.3	79	26.1	91	E	.....	.....	2	8c	5k	E	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.8 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,866 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.40‡	772.1‡	.....	.....	77	25.0	91	NE	3	1.3	.....	.....	2	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N. H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.98‡	761.5‡	.....	.....	77	25.0	88	SW	.....	.....	2	.....	7ck;k	.....	W	0	0	.....	.....	Fair	
Adams, N 23° 30′, W. 108° 00′	29.87‡	758.7‡	.....	.....	82	27.8	91	SW	.....	.....	2	.....	8	.....	SW	.....	.....	Smooth	.....	Fair	
Alliance, Southamptoa, Eng	29.77‡	756.1‡	.....	.....	59	15.0	70	W	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Rainy	
Ashuelot, Yokohama, Japan	29.97‡	761.2‡	.....	.....	77	25.0	95	S	.....	.....	5	.....	8	.....	.....	.....	.....	Mod'ate	S	Cloudy	
Colorado, New York, N. Y.	29.92‡	760.0‡	.....	.....	77	25.0	69	WSW	14	6.3	.....	.....	5	.....	.....	0	0	.....	.....	Hazy	
Constellation, Halifax, Nova Scotia	29.70‡	754.4‡	.....	.....	72	22.2	71	W	.....	.....	1	.....	8	.....	Calm	0	0	.....	.....	Hazy	
Constitution, League Isl. Navy Yard, Pa.	30.01‡	762.2‡	.....	.....	76	24.4	82	SW	.....	.....	4	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Christiania, Norway	29.23‡	742.4‡	.....	.....	57	13.9	100	ESE	.....	.....	5–6	.....	10	.....	E	.....	.....	.....	.....	Stormy	
Franklin, Norfolk, Va.	30.16‡	766.1‡	.....	.....	75	23.9	68	SW	10	4.5	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.	
Hartford, Montevideo, Uruguay	30.34‡	770.6‡	.....	.....	54	12.2	93	ESE	4	1.8	.....	.....	10	.....	E	0	0	.....	.....	Cloudy	
Independence, Mar. I'd. Navy Yard, Cal.	29.89‡	759.2‡	.....	.....	60	15.6	71	W	6	2.7	.....	.....	6?	.....	SW	.....	.....	.....	.....	Clear.	
Kearsarge, N. 40° —′ W. 69° —′	30.01‡	762.2‡	.....	.....	63	17.2	89	SW	.....	.....	4	.....	8	.....	SW	.....	.....	Long	SW	Fair	
Michigan, Erie, Pa.	29.82‡	757.4‡	.....	.....	81	27.2	75	W	.....	.....	6	.....	8	.....	WNW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	29.71‡	754.6‡	.....	.....	79	26.1	86	ESE	.....	.....	3	.....	5	.....	ESE	.....	.....	.....	.....	Fair	
Monongahela, Yokohama, Japan	29.98‡	761.5‡	.....	.....	79	26.1	86	S	.....	.....	3–4	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.24‡	768.1‡	.....	.....	79	26.1	78	NNE	5	2.2	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.23‡	767.8‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.74‡	755.4‡	.....	.....	80	26.7	91	ESE	.....	.....	3	.....	5	.....	SE	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	77	25.0	95	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 17° 04′, W. 74° 22′	30.04‡	763.0‡	.....	.....	64	17.8	83	N	1	0.4	.....	.....	8	.....	.....	0	0	Smooth	SW	Cloudy	
Portsmouth, Newport, Rhode Island.	29.93‡	760.2‡	.....	.....	65	18.3	84	SW	.....	.....	5	.....	5	.....	W	0	0	Mod'ate	SW	Fair	
Powhatan, New York, N. Y.	29.96‡	761.0‡	.....	.....	77	25.0	69	WSW	.....	.....	2	.....	5	.....	NNE	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.79‡	756.7‡	.....	.....	78	25.6	69	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.71‡	754.6‡	.....	.....	82	27.8	87	SE	.....	.....	4	.....	10	.....	Calm	.....	.....	Smooth	Calm	Overcast	
Richmond, Yokohama, Japan	29.95‡	760.7‡	.....	.....	79	26.1	86	SSE	.....	.....	3	.....	8	.....	S	0	0	Smooth	S	Cloudy	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡	.....	.....	81	27.2	96	SE	.....	.....	1	.....	5	.....	S	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	30.05‡	763.3‡	.....	.....	77	25.0	65	WSW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair	
Saratoga, N. 34° 13,′ W. 67° 46′	30.26‡	769.1‡	.....	.....	75	23.9	81	E	.....	.....	0–1	.....	8	.....	Calm	0	0	Mod'ate	NE	D. clouds	
St. Louis, League Island, Pa	29.99‡	761.7‡	.....	.....	77	25.0	86	SW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Schelde river, Belgium	29.71‡	754.6‡	.....	.....	60	15.6	71	W	.....	.....	3–5	.....	8	.....	WSW	0	0	Smooth	.....	Squally	
Tuscarora, Mare Island Navy Yard, Cal	29.89‡	759.2‡	.....	.....	60	15.6	88	WSW	.....	.....	4	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	29.94‡	760.5‡	.....	.....	75	23.9	77	SW	.....	.....	3	.....	2	.....	W	Blank	Blank	Smooth	.....	Fair	
Wabash, Boston, Mass	29.82‡	757.4‡	.....	.....	83	28.3	59	SW	6	2.7	.....	.....	0	.....	.....	0.08	2.0	.....	.....	Clear	
Wyoming, Trieste, Austria	29.81‡	757.2‡	.....	.....	80	26.7	59	NW	.....	.....	2	.....	2	.....	NW	.....	.....	Smooth	NW	Clear	
Wachusett, 65 m'ls above Vicksburg, Miss	30.12‡	765.0‡	.....	.....	78	25.6	95	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																		Capt. T. Roberts.	
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																		Capt. Cobb.	
S.S. City of New York																		Capt. Seabury	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearboru	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 9° 34', W. 85° 08'†		30.00‡	762.0‡	78	25.6	91	ESE		3		8		ESE	0.80 in. or 20.3mm	Small	SE	Squally	Capt. R. Searle.	
S. S. Costa Rica																		Capt. Whitebury.	
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		29.94‡	760.5‡	56	13.3		Calm		0		0			0			Clear	R. Lawless,	
S. S. Georgia																		Capt. Connolly.	
S. S. Granada, Capt. Austin.																		F.W.Hart, 1st Officer.	
S. S. Wilmington																		Capt. A. Fuller.	
S. S. Zealandia																		R. C. Ghest, 1st Officer.	
WHITE STAR LINE MARINE SERIES.																			
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																		Capt. J. W. Jenning.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell.	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																		D. A. Joyce, 2nd Officer.	
S. S. Gaelic, Capt. Davidson, N. 26° 53', E. 121° 01'.††		29.92‡	760.0‡	81	27.2		SE		5		ks		S	Heavy	Mod'ate	SSE	Raining	J .A. Thompson, C. O.	
S. S. Oceanic, Capt. J. Metcalf, N. 36° 46', E. 148° 25'		29.90‡	759.4‡	73	22.8	95	SW		4		8		WSW		2	SW	D. clouds	J. G. Cameron.	
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undütsch.	
S. S. Leipzig, Capt. F. Peiffer, N. 50° 37', W. 0° 29'		29.80‡	756.9‡	62.0	16.7	72	W		6		8		W	0	Long	W	Sprinkling	S. Risius, 3rd Officer.	
S. S. Nürnberg																		Capt. A. Jaeger.	
S. S. Ohio, Bremerhaven, Germany		29.62‡	752.3‡				WNW		6		8		WNW				Raining	Capt. G. Meyer.	

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.55‡	750.6‡	64	17.8	89	W			7		8		W	0			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 30° 00′, W. 85° 54′		30.17‡	66.3‡	80	26.7	78	NE	11	4.9			0			0	Short	NE	Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.11‡	764.8‡				ENE			4		2				Mod'ate		Showery	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 5, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7* A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.17	766.2	68.7	20.4	.....	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.04	763.1	78.4	25.8	91	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.03	762.8	79.5	26.4	64	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	30.09	764.2	83.1	28.4	87	NNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	762.2	95.0	35.0	7	NNE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.05	763.3	91.2	32.9	25	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	30.07	763.7	86.0	30.0	41	SSE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.00	762.0	100.8	38.2	31	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.97	761.1	100.4	38.0	36	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.32	744.8	29.86	758.5	62.4	16.9	66	E	.....	.....	3	.....	10	.....	.....	0.028	0.7	.....	Prof. Ivan Stozir.
Crncow, I. R. Observatory	29.00	736.5	29.74	755.4	66.7	19.3	49	WSW	.....	.....	2	.....	10	.....	.....	0.224	5.7	.....	Dr. Wierzbiski.
Eperies	28.86	733.0	29.35	745.5	67.6	19.8	70	Calm	.....	.....	0	.....	10ks	.....	S	0.219	5.55	.....	Julius Mikolik.
Gratz	28.65	727.6	29.88	759.0	50.9	15.0	75	S	.....	.....	2	.....	10	.....	.....	0.701	17.8	.....	Andreas Rospini.
Hermannstadt	28.31	719.0	29.65	753.0	78.3	25.7	53	NW	.....	.....	6	.....	6	.....	.....	1.126	28.60	Thunder-storm.	Prof. A. Gottschling.
Kremsmünster	28.53	724.6	29.85	758.3	56.1	13.4	75	WNW	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.75	730.2	29.70	754.3	65.3	18.5	68	NW	.....	.....	1	.....	9	.....	.....	0.055	1.4	.....	Dr. T Stanecki.
Pola	29.62	752.4	29.78	755.1	70.9	21.6	50	E	.....	.....	6	.....	8	.....	.....	0.236	6.0	Thunder-storm.	I.R.HydrographicOffice.
Szathmar	29.31	744.5	29.76	755.8	70.9	21.6	55	SW	.....	.....	2	.....	10	.....	.....	0.209	5.3	Raining	Julius Csics, S. J.
Szegedin	29.54	750.2	29.81	757.1	64.0	17.8	68	NE	.....	.....	3	.....	7	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.71	754.7	29.82	757.3	59.2	15.1	71	ENE	.....	.....	2	.....	10	.....	.....	0.303	7.7	Raining	P. Busin.
Vienna	29.11	739.5	29.85	758.1	63.9	17.7	56	W	.....	.....	2	.....	8	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.51	749.5	29.61	752.1	57.7	14.8	.....	W	11	4.9	.....	.....	6	.....	.....	0.210	5.33	D. clouds	W. Boswell.
Ardrossan	29.70	754.4	29.72	754.9	55	12.8	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	Raining	Wm. McNeil &G. Carrick
Armagh, Observatory	29.65	753.1	29.88	758.9	56.0	13.3	.....	NW	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.83	757.7	55.8	13.2	.....	W	38	17.0	.....	.....	7	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	.....	.....	29.79	756.7	52.2	11.2	.....	W	24	10.7	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.38	746.2	29.77	756.1	57.7	14.3	.....	NW	.....	.....	5	.....	6	.....	.....	0.02	0.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.10	762.0	30.03	762.7	84	28.9	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	Gloomy	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	29.74	755.4	29.83	757.7	59.5	15.3	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	Squally	H. Todd.
Cardington	.....	.....	29.84	757.9	57.0	13.9	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	58.2	14.6	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper R. E.
Donaghadee	29.78	756.4	29.83	757.7	58	14.4	.....	NW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.86	758.4	29.88	758.9	58	14.4	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	Showery	J. Costello.
Falmouth, Observatory	29.84	757.9	30.07	763.8	59.0	15.0	.....	W	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.86	707.6	30.13	765.3	63.4	17.4	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A. H. C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	81	27.2	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.92	760.0	58	14.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	78.4	25.8	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.50	749.3	29.70	754.4	55.6	13.1	.....	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.77	756.1	29.78	756.4	58	14.4	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.71	754.6	29.88	758.9	59.6	15.3	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.83	757.7	30.05	763.3	58	14.4	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F. R. S.
Helston	30.05	763.3	30.17	766.3	65	18.3	.....	NW	.....	.....	6	.....	3ck	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.89	759.2	55	12.8	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Showery	John Tilston.
Jersey	29.82	757.4	30.11	764.8	58.8	14.9	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.85	758.2	29.88	758.9	58.9	14.9	.....	W	12	5.4	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.58	751.3	29.83	757.7	55.2	12.9	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	Wm. J. Harrison, F. G. S.
Malta, Mediterranean	29.79	756.7	29.727	754.97	82	27.8	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.53	750.0	29.62	752.3	58	14.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.16	766.1	83.5	28.6	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.63	752.6	29.82	757.4	64.7	18.2	.....	WSW	.....	.....	5	.....	9c;k;d	.....	W	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.34	745.2	29.86	758.4	51.2	10.7	.....	W	.....	.....	3–4	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.39	746.5	59	15.0	.....	SW	.....	.....	4	.....	7	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.96	761.0	30.03	762.7	61.6	16.4	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	28.57	725.7	30.04	763.0	52.3	11 3	.....	NW	.....	.....	4	.....	9	.....	.....	.....	.....	Fine	W. H. Tooker.
*Roche's Point	29.95	760.7	30.05	763.3	60	15.6	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
Saint Ann's Head	29.81	757.2	29.97	761.2	55	12.8	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.61	752.1	53.6	12.0	.....	NNE	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev C. Clouston, L. L. D.
Scutari, Cemetery (Turkey)	29.58	751.3	29.64	752.8	98.4	36.9	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.54	750.3	29.82	757.4	57.8	14.3	.....	W	5	2.2	.....	.....	8	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.75	755.6	29.78	756.4	58.9	14.9	64	W	.....	.....	4	.....	4	.....	.....	0.030	0.76	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.81	757.2	52.1	11.2	.....	WSW	18	8.0	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.69	754.1	29.91	759.7	59.7	15.4	.....	W	.....	.....	3–4	.....	8	.....	.....	.....	.....	Squally	Rev. C. H. Griffith, F. M. S.
Truro, Royal Institution	30.04	763.0	30.06	763.5	62	16.7	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	30.02	762.5	30.04	763.0	58.1	14.5	.....	W	13	5.8	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.02	762.5	30.06	763.5	57.0	13.9	98	NW•	4.5	2.0	.....	15	4	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.54	750.3	41	5.0	79	NW	.....	.....	1	.....	10k	.....	.....	0.01	0.3	Cloudy	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	29.68	753.9	61.1	16.2	.....	W	.....	.....	4	.....	5k	.....	.....	0	0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.98	761.5	30.18	766.4	73.7	23.2	60	SE	20.0	8.9	.....	9	1	NNW	.....	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.45	748.0	29.54	750.3	46.1	7.8	77	N	16	7.2	.....	.....	8	NW	.....	0.07	1.8	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.74	755.4	54	12.2	.....	NW	.....	.....	4	5	5	NW	.....	0.2	5.	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.62	752.3	55	12.8	.....	E	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 35′, E. 28° 35′	.....	.....	29.68‡	753.9‡	80.8	27.1	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Misty	Capt. W. J. L. Wharton.
Agnes Wilson, N. 33° 25′, W. 76° 15′	.....	.....	30.16	766.1	83	28.3	.....	SSW	.....	.....	3	.....	2	.....	.....	2	S	Misty	Capt. H. W. Dyke.
Astarte, N. 37° 00′, W. 37° 50′ *	.....	.....	30.25‡	769.1‡	75.6	24.2	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Capt. Parson.
British Peer, N. 54° 05′, W. 24° 15′	.....	.....	29.77‡	756.1‡	57.5	14.2	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Capt. Raymond.
Theophane, S. 36° 05′, E. 18° 25′	.....	.....	29.97‡	761.2‡	62.4	16.9	.....	WNW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12, the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturoance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.29	667.8	30.01	762.2	69.4	20.8	91	SE			1	9c;ck				0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.34	745.3	29.39	746.5	57.4	14.1	75	W			4		10					Raining	
Faröe	29.51	749.5	29.53	750.0	57.4	14.1	75	W			6		8						
Godthaab (Greenland)	29.35	745.4	29.39	746.5	46.0	7.8	89	Calm			0		10					Raining	
Stykkisholm (Iceland)	29.89	759.3	29.94	760.4	49.8	9.8	71	E			7		9						
Thorshavn (Faröe)	29.71	754.5	29.74	755.4	59.7	15.4	66	N			2		8						
Vestervig	29.33	744.9	29.44	747.7	56.8	13.8	96	WNW			4		9					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.55	750.6	30.10	764.6	60.8	16	73	SW			1		2	S	SW	0.020	0.5	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.84	758.0	29.95	760.7	62.2	16.8	55	W			6		2		E	0	0	Slightly cl'dy	Bouvallet, Director.
Arras, Engin'r School	29.68	753.9	29.92	760.3	57.6	14.2	69	W			5				NW	0.079	2.0		Klein, Commandant.
Avignon, Normal School	29.99	761.8	30.07	763.8	73.4	23	37	N			3		1		N	0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.49	749.1	30.05	763.2	57.9	14.4	62	NE			2		8kn		SW	0.008	0.2	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.72	755.0	29.99	761.7	60.8	16	63	W			3		8		WNW	0.069	1.75	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.21	741.8	30.10	764.5	56.3	13.5	80	SW			1		10		SW	0.335	8.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.27	743.5	30.21	767.2	63.5	17.5	59	W			1		8cn	W	W	0.08	2.	Very cloudy	Marlot, Director.
Bourges, Normal School	29.57	751.0	30.11	764.9	59.0	15	78	NW			5		10ckn	NW	NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.87	758.6	30.11	764.7	64.4	18.0	62	WNW			2		6		WNW	0.020	0.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.78	756.3	30.19	766.7	65.5	18.6	64	NW			3		5	NW	NW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.99	761.7	30.07	763.6	64.0	17.8	54	W			1				W	0	0		Lair, Director.
Chartres, Normal School	29.48	748.8	30.04	763.0	66.2	19	92	W			1		7		W	0.331	8.4		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.69	754.2	30.01	762.2	59.5	15.3	66	WSW			3		8	W	W	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.78	731.0	30.11	764.7	65.8	18.8	38	W			3		8		W	0.004	0.1		Allnard, Director.
Commercy, Normal School	29.13	739.8	29.98	761.4	60.1	15.6	53	W			3		5ckn	W	W	0.035	0.9	Cloudy	Dr. Cuniet, Director.
Commune de Gréasque*	28.94	735.1	30.08	764.1	66.6	19.2	29	NW			6		5		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.37	746.1	30.14	765.6	58.3	14.6	70	N			1		5kn		NE	0.295	7.5	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.97	761.2	30.18	766.6	62.2	16.8	56	W			1		5		W	0.134	3.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.81	757.1	30.11	764.9	61.5	16.4	58	NW			5		5		NW	0.069	1.75	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.20	741.7	30.11	764.8	63.1	17.3	63	WNW			1		5nk		W	0.146	3.70	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.08	764.0	30.18	766.5	61.2	16.2	58	W			3			NW	W	0.012	0.3		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.74	755.4	30.00	762.1	70.5	21.4	26	NW			6		4			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.97	735.9	30.02	762.5	54.1	12.3	78	SW			1		5		SW	0.205	5.2	Cloudy	Barbier, Director.
Mont-Louis	26.02	685.5	30.34	770.5	59.0	15.0	35	N	24.2	10.8			0			0	0		C. Cave.
Nîmes, Normal School	29.91	759.8	30.11	764.8	73.0	22.8	36	NW			6		5		NW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.76	755.9	52.9	11.6	90	WNW			2		10		WNW	0.142	3.6	Raining	Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.67	575.9			42.8	6.0		NW			2		0			0	0	Clear	Gen'l de Nansouty.
Perpignan	30.03	762.8	30.13	765.4	68.4	20.2	39	NE	29.8	13.3			1	NW		0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.24	641.0			37.8	3.2	97	NW			2		10			0.236	6.0		Allnard, Director.
Rochefort, Naval Obs'y	30.19	766.9	30.23	767.7	69.1	20.6	62	W			1		5	W	W	0.08	2.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.94	760.4	30.02	762.6	63.1	17.3	59	W			5		5		W	0.114	2.9	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.08	763.9	30.11	764.7	63.9	17.7	64	W			3		1	W	W	0.227	5.78	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.92	759.9	30.04	763.1	53.6	12.0	88	WNW			3		10		WNW	0.051	1.3	Showery	E. Renou, Director.
Tarbes, Normal School	29.09	738.8	30.13	765.4	73.4	23	59	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.54	750.2	30.26	768.6	64.8	18.2	55	NW			5		8			0	0		M. Julier Mercadier.
Tours	29.87	758.8	30.11	764.8	65.5	18.6	49	NW			5		7		WNW	0.059	1.5		Cousin-Marquet.
Versailles, Observatory	29.51	750.4	30.04	763.0	57.6	14.2	72.	NW			3					0.063	1.60		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.40	746.7	30.10	764.6	63.1	17.3	63	W			2		5		SE	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.2	29.92	760.0	81.0	27.2										0.08	2.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.59	749.3	30.11	764.9	62.1	16.7	57	NW			1		5		WNW	0.012	0.3	Cloudy	Ch. André, Director.
Nice			29.82	757.3	77.9	25.5	50	SE			5		2			0	0	Fair	Dr. A. Nisbet, Jr.
Zi-Ka-Wei (near Shanghai)	29.65	753.1	29.67	753.7	82.2	27.9	50	SSE	17.9	8.0		5ck				0	0	½ covered	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,435 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.1	29.86	758.4	62.6	17.0	53	W			4		5	W		0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	29.54	750.2	29.71	754.5	64.0	17.8	60	SW			5		8			0.087	2.2		Prof. Dr. Arndt.
Breslau	29.24	742.6	29.76	756.0	65.1	18.4	52	WSW			4		5			0.498	12.68		Royal University Observ'y.
Carlsruhe	29.54	750.2	29.96	760.9	62.6	17.0	52	SW			2		2	SW		0	0		Albert Senx.
Cassel	29.22	742.2	29.82	757.5	65.1	18.5	58	WNW			3		7	SW		0.026	0.66		Dr. H. Möhl.
Crefeld	29.64	752.8	29.80	756.9	59.0	15.0	71	NW			7		9			0.43	11.		Director Lose.
Emden			29.67	753.6	59.0	15.0	73	WNW			5		10			0.134	3.4		Prof. Dr. Prestel.
Frankfort on the Main	29.42	747.3	29.78	756.4	63.7	17.6		WNW			3		8			0.114	2.9		Physical Society.
Freienwalde on the Oder	29.60	751.9	29.84	752.9	65.3	18.5	58	W			5	c	4k	W		0.071	1.8	Showery	Dr. Assmann.
Friedrichshafen	28.57	725.7	30.02	762.4	51.1	10.6	91	WSW			3		10	W		0.076	1.9		M. Wilhelm.
Hamburg	29.54	750.4	29.61	752.2	59.7	15.4	73	W			6		10n			0.394	10.0	Showery	Captain F. Hegemann.
Kiel	29.53	750.1	29.55	750.5	59.9	15.5	65	W			5		10			0.042	1.06		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.50	749.8	29.58	751.3	60.8	16.0	71	SW			5		4			0.543	13.8		Prof. E. Luther.
Köslin			29.53	750.1	58.1	14.5		SW			4		5			0.157	4.0		H. Müller.
Leipsic Observatory	29.34	745.3	29.75	755.7	66.9	19.4	61	WSW			5		8	W		0	0	Stormy	Prof. Bruhns, Privy Counselor.
Memel	29.51	749.6	29.56	750.8	63.1	17.3	64	WSW			5		1k						Skalweit.
Munich (München)	28.11	714.2	29.98	761.4	53.4	11.9	79	SW			6		9	W		0.587	14.9	Rainy	Dr. C. Lang.
Neufahrwasser	29.56	750.8	29.58	751.2	61.5	16.4	70	SW			4		10			0.198	4.9		A. Lothes.
Posen	29.45	748.0	29.73	755.1	64.9	18.3	55	W			6		5			0.161	4.1		Dr. Magener.
Strassburg (in Alsace)	29.44	747.8	29.98	761.4	64.2	17.9	49	W			3		9	W		0.046	1.18		Imp. University Observatory.
Stuttgart	28.98	736.1	29.91	759.6	61.7	16.5	51	W			2		6	W		0.036	0.9		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.41	721.6	29.89	759.2	58.6	14.8	51	WNW	18	8			9ck		WNW	0.031	0.8	Hazy	T. Hopfner.
Wustrow	29.51	749.6	29.54	750.2	63.0	17.2	84	SW			6		8s			0.154	3.9		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.34	745.1	29.70	754.4	93.6	34.2		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.47	748.4	29.53	749.9	85.2	29.6	70	SW				7	SW			0	0	D. clouds	
Daesa	29.12	739.6	29.58	751.4	87.2	30.7	67	SSW	17.5	7.8		5		SW		0	0	D. clouds	
Bombay	29.07	753.7	29.71	754.7	80.3	26.8	82	W	19.0	8.5		10		SW		0.33	8.4	Overcast	
Poona	27.88	708.1	29.74	755.4	74.8	23.8	82	WSW				8	E	WSW		0.06	1.5	D. clouds	
Lahore	28.66	727.9	29.36	745.8	100.2	37.9	46	Calm	1.2	0.5		3				0.27	6.9	Blue sky	
Belgaum	27.25	692.0	29.81	757.2	69.0	20.6	93	W	12.0	5.4		10	SW	SW		0.11	2.8	D. clouds	
Roorkee	28.55	725.0	29.42	747.1	89.8	32.1	68	Calm	0.9	0.4		2				0	0		
Agra	28.88	733.5	29.44	747.6	82.7	28.2	91	W				10		W		0	0		
Nagpur	28.52	724.3	29.54	750.3	85.5	29.7	67	WNW	5.9	2.6		10		E		0	0	Gloomy	
Lucknow	29.03	737.3	29.39	746.6	86.2	30.1	84	S	3.1	1.4		10				0.13	3.3	Overcast	
Allahabad	29.13	739.9	29.44	747.7	84.4	29.1	86	Calm	3.3	1.5		9				0.22	5.6	D. clouds	
Patna	29.24	742.8	29.42	747.3	85.6	29.8	85	NE	0.3	0.1		10	NE	NE		0.01	0.3	Overcast	
Hazaribagh	27.48	698.1	29.47	748.5	79.0	26.1	89	W	4.5	2.0		10		W		0.34	8.6	Showery	
Cuttack	29.44	747.7	29.52	749.8	80.8	27.1	84	SSW	4.0	1.8		8				0.06	1.5	D. clouds	
Calcutta (Alipore)	29.44	747.9	29.46	748.4	82.2	27.9	94	S	2.0	0.9		8	SE			0.68	17.3	Showery	
Goalpara	29.10	739.2	29.48	748.9	85.3	29.6	74	Calm	2.1	0.9		9	NE			0.87	22.1	D. clouds	
Chittagong	29.48	748.8	29.58	751.2	81.9	27.7	87	S	7.6	3.4		8				0	0		
Sibsagar	29.19	741.5	29.52	749.8	83.4	28.5	85	ENE	2.0	0.9		10				0	0	D. clouds	
Jubbulpore	28.14	714.8	29.48	748.9	83.0	28.3	72	NW	7.0	3.1		10		S		0.02	0.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,355 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature. Inches.	BAROMETER. Corrected or instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.46	748.2	29.85	758.2	57.4	14.1	68	NE	9.8	4.4	.....	.....	10	.....	.....	0.988	25.1	.....	Prof. Giovanni Clodig.
Milan	29.30	744.2	29.80	756.9	71.8	22.1	44	SE	.....	.....	4	.....	9	.....	.....	0.067	1.7	.....	Prof. Schiaparelli.
Padua	29.71	754.6	29.82	757.3	66.4	19.1	47	NE	21.0	9.4	.....	.....	7	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.90	734.0	29.76	756 0	73.6	23.1	15	NW	15.4	6.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.61	752.1	29.80	756.8	75.6	24.2	57	SW	6.3	2.8	.....	.....	2	SW	.....	0.020	0.5	.....	Prof. G. M. Garibaldi.
Mondovi	27.94	709.7	29.78	756.3	71.4	21.9	21	WNW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.69	754.1	29.74	755.3	72.5	22.5	62	NW	18.6	8.3	.....	.....	4	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.58	751.2	29.83	757.6	75.2	24.0	46	W	.....	.....	6	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.74	755.4	29.82	757.5	71.1	21.7	53	W	37.8	16.9	.....	.....	4	W	.....	0	0	.....	Prof. P. Monte.
Rome	29.67	753.5	29.84	757.8	79.3	26.3	52	SSW	16.8	7.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.53	750.0	29.77	756.2	86.4	30.2	33	SSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.1	29.86	758.4	84.6	29.2	63	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.79	756.6	29.97	761.3	79.0	26.1	35	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.72	754.9	29.97	761.2	80.2	26.8	46	ENE	3.1	1.4	..	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.84	757.8	29.91	759.7	78.6	25.9	61	E	1.3	0.6	.....	.....	0?	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.36	745.8	29.92	759.9	75.9	24.4	53	SW	13.7	6.1	.....	.....	2	SE	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.93	760.2	76.2	24.6	91	Calm	0	0	.....	.....	10s	.....	.....	0.055	1.40	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.96	761.0	77.9	25.5	85	S	4.3	1.9	.....	.....	6cs	.....	.....	0.010	0.25	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.75	755.6	29.82	757.4	77.8	25.4	92	SW	3.6	1.6	.....	.....	10s	.....	.....	0.005	0.13	Cloudy	The Staff.
Wakayama	29.89	759.2	29.94	760.5	77.7	25.4	87	SW	6.9	2.6	.....	.....	10s	.....	.....	0.030	0.76	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.4	30.06	763.4	68.6	14.8	77	NE	.....	.....	1	.....	8	....	SE	1.50	38.0	Cloudy	Prof. L. Perez.
Leon	24.47	621.5	30.10	764.5	64.0	17.8	75	SE	.....	.....	2	4c	0	SE	.....	0.03	0.7	½ clouded	Prof. M. Leal.
Mexico, Central Obs'y	23.11	587.0	30.04	763.0	56.3	13.5	83	NW	1.1	0.5	.....	6pc	3k	E	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	61.9	16.6	76	N	.....	.....	1	3c	1k	NE	NE	0.07	1.8	Fair	M. V. de Leon, M. E
Tlacotalpam	29.98	761.4	29.99	761.7	77.0	25.0	96	NW	.....	.....	1	5	4	SE	NE	0.76	19.3	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.30	617.1	30.25	768.4	60.1	15.6	75	E	.....	.....	2	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.59	573.9	30.18	766.6	55.2	12 9	87	E	.....	.....	2	4c	6s	SE	SE	0.04	1.0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.6	30.21	767.4	55.6	13.1	83	Calm	0	0	.....	10c	0	E	.....	0.43	10.8	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.95	753.2	29.95	760.6	75.6	24.2	87	NE	.....	.....	1	6	3	.....	.....	0.19	4.8	Cloudy	F. Quyano, U. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.86	758.4	29.86	758.4	62.6	17.0	.....	W	.....	.....	4	.....	.....	.....	.....	0.185	4.7	.....	.....
Groningen	29.03	752.5	29.03	753.9	.....	.....	.....	W	.....	.....	4	.....	.....	.....	.....	0.043	1.1	.....	.....
Helder	29.74	755.3	29.74	755.3	56.1	13.4	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.79	756.6	29.79	756.6	58.6	14.7	68	W	.....	.....	5	.....	.....	.....	.....	0.067	1.7	.....	.....
Utrecht	29.75	755.7	29.80	756.9	62.1	16.7	66	W	.....	.....	4	.....	8	.....	.....	0.118	3.0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.37	746.1	29.43	747.5	58.6	14.8	83	W	7.4	3.3	.....	.....	8	.....	.....	0.110	2.8	.....	
Brönö	29.52	749.7	29.56	750.7	73.4	23.0	25	E	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.24	742.7	29.38	746.3	61.5	16.4	61	ENE	9	4	.....	.....	10	.....	.....	0.016	0.4	.....	
Tromsö	29.63	752.6	29.67	753.7	66.6	19.2	41	NE	13	6	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.14	765.6	30.33	770.4	71.6	22.0	81	SSW	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.02	762.5	87.8	31.0	18	NE	0.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos
Funchal (Madeira)	30.12	765.1	30.21	767.3	73.2	22.9	69	SW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.2	30.12	765.1	73.2	22.9	35	N	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	769.1	30.35	770.9	71.6	22.0	77	SSE	0.7	0.3	.....	.....	3	.....	.....	0.067	1.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.03	762.8	85.1	29.5	.....	SSW	.....	.....	2	.....	0	.....	.....	4	SSW	Blue sky	H. C. e Athayde.
																			J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea			30.06	763.4	65.8	18.8	.....	WNW	.....	.....	3	.....	5	.....	WNW	1	WNW	D. clouds	J.C. M. Cabrate, 1st Lt.
																			J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.08	764.0	75.6	24.2	.....	ENE	.....	.....	1	.....	10	.....	ENE	.....	.....	Drizzling. 3 hr's rain-fall.	A. A. A. Loureiro.
																			F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.78	756.5	84.6	29.2	.....	S	.....	.....	1	.....	3	.....	S	0	S	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.27	743.5	29.68	753.9	64.6	18.1	62	SW	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.20	741.6	29.60	751.9	64.4	18.0	62	SW	4	2	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.24	742.8	29.48	748.7	65.7	18.7	52	W	7	3	.....	.....	3ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.42	747.2	29.43	747.6	58.1	14.5	84	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	28.97	735.7	29.56	750.8	79.2	26.2	49	S	13	6	.....	.....	5k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	82.2	27.9	45	SSW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch																			Lagorio.
Moscow	29.05	737.8	29.57	751.0	74.1	23.3	48	S	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.47	748.6	29.67	753.6	75.4	24.1	64	SW	4	2	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.50	749.4	29.52	749.9	48.0	8.9	86	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Ssoliwerstow.
Tiflis	28.44	722.3	29.77	756.1	82.8	28.2	43	Calm	0	0	.....	.....	3n	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.82	757.3	29.73	755.2	77.5	25.3	53	SW	9	4	.....	.....	10sn	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.22	742.1	29.66	753.4	72.5	22.5	44	NW	4	2	.....	.....	7	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.34	745.1	29.60	751.7	66.6	19.2	52	Calm	0	0	.....	.....	7k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.52	724.5	29.47	748.6	48.6	9.2	73	WNW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.59	751.6	29.81	757.2	83.2	28.5	36	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.23	717.0	29.69	754.2	83.5	28.6	59	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.11	739.3	29.56	750.9	85.1	29.5	42	SSE	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.4	29.74	755.3	81.3	27.4	83	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk																			
Peking (China)	29.48	748.8	29.62	752.4	70.9	21.6	97	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.01	762.2	30.11	764.8	72.9	22.7	62	SSE	5.8	2.61	.....	.....	0	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.23	767.7	30.28	769.1	72.7	22.6	46	NW	3.3	1.48	.....	3	5	N	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6	.....	.....	61.2	16.2	53	NE	9.6	4.30	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Osservatory	27.69	703.4	29.98	761.5	87.3	30.7	30	NE	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.92	760.0	30.06	763.6	86.0	30.0	59	ESE	6.0	2.67	.....	3	7	NE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.33	745.0	30.22	767.6	64.8	18.2	59	NE	17.4	7.8	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.08	763.9	30.14	765.6	82.2	27.9	81	NNE	1.1	0.5	.....	3c	0	WNW	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.9	29.85	758.3	82.4	28.0	91	WNW	0	0	.....	.....	3ks	.....	E	0.228	5.5	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.7	30.05	763.1	79.3	26.3	53	SSW	9.8	4.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.06	763.4	30.15	765.7	82.4	28.0	73	E	8.5	3.80	.....	2cs	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.2	29.65	753.2	67.3	19.6	.....	NE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.57	751.0	29.62	752.3	61.2	16.2	40	NE	.....	.....	6	.....	7	.....	.....	0	0	.....	
Hernosand	29.47	748.6	29.52	749.9	58.6	14.8	83	NE	.....	.....	4	.....	9	.....	.....	0.043	1.1	.....	
Stockholm	29.18	741.2	29.36	745.7	59.0	15.0	96	S	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	
Wisby	29.33	745.0	29.39	746.5	59.7	15.4	70	WSW	.....	.....	6	.....	10	.....	.....	0.067	1.7	.....	
Sub-Series.																			
Upsala	29.26	743.2	29.35	745.4	56.3	13.5	95	SSE	3.6	1.6	.....	.....	10	.....	ESE	0.206	5.22	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 36° 36′, W. 2° 36′	.....	.....	30.15	765.9	61.5	27.5	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.4	30.09	764.2	60.4	15.8	55	S	.....	.....	2	.....	7	.....	.....	0.118	3.0	Cloudy	The Observatory.
Zurich	28.43	722.0	30.06	763.5	55.0	12.8	74	W	.....	.....	4	.....	9	.....	.....	0.362	9.2	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +1.1 mm.; Thermometer, -6.4 Cent.; Relative Humidity, +2 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.72	754.8	89.2	31.8	28	E	2	1.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.92	760.0	88.2	31.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751.6	29.70	754.4	90.1	32.3	59	SW	.....	.....	2	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.10	764.5	30.17	766.3	53	11.7	66	N	10	4.5	.....	2k	0	N	.....	0.55	14.0	Fair	G. A. Bain.
Charlottetown, P. E. Island	30.07	763.8	30.11	764.8	54	12.2	66	N	11	4.9	.....	0	5ks	.....	NW	0.215	5.46	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.98	761.5	30.17	766.3	58.7	14.8	63	E	.....	.....	3	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.01	762.2	30.17	766.3	51.8	11.0	63	W	.....	.....	2	0	0	.....	.....	0.86	21.8	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.20	767.1	30.22	767.6	46	7.8	80	W	7	3.1	.....	0	Haze	.....	Calm	0.09	2.3	Clear	J. McWilliams.
Fredericton, N. B	30.14	765.5	30.20	767.1	55.8	13.2	64	E	5	2.2	.....	k	0	.....	.....	0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.27	743.4	30.08	764.0	61	16.1	70	E	5	2.2	.....	2ck	2ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	29.13	739.9	30.21	767.3	62	16.7	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.02	762.5	30.13	765.3	56	13.3	64	NE	7	3.1	.....	2c	2ks	NE	NE	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.88	758.9	30.25	768.3	63.9	17.7	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.87	758.7	30.19	766.8	63	17.2	62	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	58.5	11.9	77	N	10	4.5	.....	5k	0	N	.....	0.10	2.5	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.01	762.2	30.21	767.3	59	15.0	66	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.56	750.8	30.24	768.1	63	17.2	65	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.47	748.5	30.21	767.3	64.1	17.8	69	W	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.62	749.8	30.20	767.1	68	20.0	90	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.07	763.8	30.12	765.0	55	12.8	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.56	750.8	30.10	766.8	62	16.7	77	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.91	759.7	30.24	768.1	55	12.8	71	NE	.....	.....	3	0	0	.....	.....	0.10	2.5	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.79	756.7	30.24	768.1	57	13.9	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.10	764.5	30.15	765.8	56	13.3	68	N	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	Dr. Gove.
St. John, N. B	30.01	762.2	30.18	766.6	55	12.8	68	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.51	749.5	30.20	767.1	64	17.8	74	SE	9	4.0	.....	.....	.....	.....	.....	Inap.	Inap.	Clear	K. Stewart.
Stayner, Ontario	29.46	748.3	30.23	767.8	54	12.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.94	735.1	30.20	767.1	58.7	14.8	76	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.01	762.2	30.05	763.3	54	12.2	61	N	12	5.4	.....	2c	5ks	.....	N	0.01	0.3	Fair	T. C. Hill.
*Toronto, Ontario	29.87	758.7	30.25	768.3	64	17.8	55	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.08	764.0	30.18	766.6	62.9	16.7	61	N	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear	Prof. John E. Oram.
Woodstock	29.16	740.7	30.20	767.1	64.3	17.9	63	E	5	2.2	.....	1cs	0	.....	.....	0.01	0.3	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.65	753.1	29.90	759.4	44.0	6.7	92	NE	.....	.....	.....	10kf	10sf	.....	.....	0.40	10.2	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.19	766.8	62	16.7	61	N	7	3.1	.....	0	0	.....	.....	0.11	2.8	Clear	
Alpena, Michigan	29.57	751.1	30.21	767.3	62	16.7	83	S	4	1.8	.....	2ck	0	W	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	100	Calm	.....	.....	0	.....	10n	.....	SE	0.33	8.4	Cloudy	
Atlanta, Georgia	28 97	735.8	30.06	763.5	80	26.7	55	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	30.06	763.5	30.08	764.0	63	17.2	89	NE	21	9.4	.....	.....	10s	.....	NE	0	0	Threatening	
Augusta, Georgia	29.94	760.5	30.13	765.3	75	23.9	77	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.05	763.3	30.10	764.5	77	25.0	57	N	8	3.6	.....	5k	5s	NW	Calm	Inap.	Inap.	Cloudy	
Barnegat, New Jersey	30.07	763.8	30.09	764.3	54	12.2	93	N	16	7.2	.....	.....	10s;fg	.....	Calm	0.08	2.0	Cloudy	
Bismarck, Dakota	28.08	713.2	29.94	760.5	70	21.1	79	SE	12	5.4	.....	1k	0	S	.....	0	0	Clear	
Boerne, Texas	28.69	728.7	29.96	761.0	76	24.4	86	S	6	2.7	.....	0	8ks	.....	S	0.32	8.1	Cloudy	
Boise City, Idaho	27.23	691.6	30.19	766.8	43	6.1	67	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.03	762.7	30.18	766.6	59	15.0	59	NE	20	8.9	.....	8ck	0	NE	.....	0.12	3.0	Fair	
Brackettville, Texas	28.95	735.3	29.95	760.2	80	26.7	78	NE	8	3.6	.....	2cs	2s	Calm	SE	Inap.	Inap.	Fair	
Breckenridge, Minnesota	29.01	736.8	29.96	761.0	68	20.0	84	SE	11	4.9	.....	0	5ks	.....	Calm	0	0	Fair	
Brownsville, Texas	30.00	762.0	30.04	763.0	84	28.9	75	SE	2	0.9	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.50	749.3	30.19	766.8	63.5	17.5	60	NE	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	75	23.9	13	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.90	759.4	30.19	766.8	59	15.0	76	N	3	1.3	.....	2k	Haze	NE	Calm	0.03	0.8	Fair	
Cairo, Illinois	29.80	756.9	30.18	766.6	77	25.0	86	SW	1	0.4	.....	.....	10s	.....	SW	0.25	6.3	Cloudy	
Campo, California	27.36	694.9	29.93	760.2	40	4.4	91	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	78	25.6	78	SW	22	9.8	.....	0	1s	.....	W	0	0	Clear	
Cape Henry, Virginia	30.01	762.2	30.03	762.7	76	24.4	69	SW	13	5.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.09	764.3	30.11	764.8	79	26.1	78	SW	22	9.8	.....	5k	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.03	762.7	30.06	763.5	71	21.7	80	N	14	6.3	.....	.....	10ks	.....	N	0	0	Cloudy	
Castroville, Texas	29.33	745.0	30.01	762.2	78	25.6	86	SE	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	30.08	764.0	30.13	765.3	79	26.1	78	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.26	743.2	30.03	762.7	81	27.2	52	W	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.35	745.5	30.11	764.8	78	25.6	73	W	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	67	13.9	41	SW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Chicago, Illinois	29.50	749.3	30.17	766.3	68	20.0	74	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.51	749.5	30.14	765.5	72	22.2	76	N	7	3.1	.....	9k	0	E	.....	0.12	3.0	Cloudy	
Cleveland, Ohio	29.47	748.5	30.18	766.6	68	20.0	65	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.31	719.1	29.92	760.0	76	24.4	91	SE	8	3.6	.....	0	0	.....	.....	0.80	20.3	Clear	
Columbus, Ohio	29.34	745.2	30.15	765.8	73	22.8	63	NE	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Concho, Texas	28.18	715.8	29.79	756.7	75	23.9	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.70	754.4	30.16	766.1	72	22.2	95	SE	2	0.9	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Davenport, Iowa	29.56	750.8	30.18	766.6	68	20.0	65	E	2	0.9	.....	2c	Haze	W	Calm	0	0	Fair	
Deadwood, Dakota	25.29	642.4	.....	.....	70	21.1	32	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.98	736.1	30.11	764.8	74	23.3	81	S	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Denison, Texas	29.35	745.5	30.12	765.0	75	23.9	86	SE	6	2.7	.....	.....	10ks	.....	SE	0.01	0.3	Cloudy	
Denver, Colorado	24.81	630.2	30.03	762.7	66	18.9	54	NW	4	1.8	.....	2ck	Sm'e	Calm	.....	0	0	Fair	
Des Moines, Iowa	29.23	742.4	30.08	764.0	67	19.4	89	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Detroit, Michigan	29.55	750.6	30.20	767.1	62	16.7	77	NE	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Dodge City, Kansas	27.50	698.5	29.68	753.9	72	22.2	80	S	16	7.2	.....	2c	2ks	SW	S	0	0	Fair	
Dubuque, Iowa	29.49	749.0	30.17	766.3	65	18.3	78	NE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Duluth, Minnesota	29.48	748.8	30.16	766.1	57	13.9	75	NE	2	0.9	.....	1c	0	N	.....	0	0	Clear	
Eagle Pass, Texa	29.30	744.2	29.99	761.7	82	27.8	71	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.10	764.5	30.17	766.3	56	13.3	69	N	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	83	S	.....	.....	1	5k	2s	S	Calm	0	0	Fair	
El Paso, Texas	26.30	668.0	.....	.....	69	20.6	80	E	2	0.9	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Erie, Pennsylvania	29.48	748.8	30.17	766.3	68	20.0	70	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.55	750.6	30.18	766.6	68	20.0	79	SE	6	2.7	.....	.....	10ks	.....	W	0.15	3.8	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	80	26.7	41	Calm	0	0	.....	2k	5s	W	Calm	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.77	705.4	.....	.....	68	20.0	74	SE	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Davis, Texas	25.36	644.1	30.32	770.1	66	18.9	84	S	4	1.8	.....	.....	10s	.....	S	0.68	17.3	Cloudy	
Fort Gibson, Indian Ter	29.60	751.8	30.12	765.0	79	26.1	78	SE	1	0.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	72	22.2	54	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.86	733.0	30.08	764.0	75	23.9	66	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.22	691.4	.....	.....	72	22.2	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.87	707.9	29.71	754.6	75	23.9	77	SE	12	5.4	.....	2c	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733.8	29.95	760.7	75	23.9	81	SE	10	4.5	.....	10ck	0	S	.....	0	0	Cloudy	
Fort Stevenson, Dakota	28.05	712.5	.....	.....	68	20.0	84	SE	12	5.4	.....	4c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	72	22.2	27	N	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.38	720.8	29.88	758.9	77	25.0	77	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.12	765.0	30.16	766.1	84	28.9	75	S	6	2.7	.....	10ck	0	NW	.....	Inap.	Inap.	Cloudy	
Graham, Texas	29.04	727.6	30.05	763.3	76	24.4	86	SE	4	1.8	.....	7cs	0	SE	.....	0.05	1.3	Fair	
Grand Haven, Michigan	29.56	750.8	30.19	766.8	72	22.2	62	E	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.14	740.1	30.04	763.0	73	22.8	90	SE	8	3.6	.....	2cs	5s	Calm	S	0	0	Cloudy	
Indianapolis, Indiana	29.38	746.2	30.12	765.0	74	23.3	63	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.14	765.5	30.16	766.1	77	25.0	91	W	14	6.3	.....	.....	10s	.....	SW	0.43	10.9	Clearing	
Jacksboro, Texas	29.00	736.6	29.99	761.7	75	23.9	86	S	5	2.2	.....	0	8s	.....	S	3.15	80.0	Fair	
Jacksonville, Florida	30.15	765.8	30.17	766.3	77	25.0	82	SE	2	0.9	.....	2cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.52	749.8	30.11	764.8	70	21.1	75	E	5	2.2	.....	4c	0	W	.....	0	0	Fair	
Key West, Florida	30.13	765.3	30.16	766.1	81	27.2	78	SW	3	1.3	.....	5k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.02	762.5	30.04	763.0	75	23.9	77	W	20	8.9	.....	2cs	2s	W	W	0	0	Fair	
Knoxville, Tennessee	29.18	741.1	30.15	765.8	73	22.8	85	NE	4	1.8	.....	.....	10ks	.....	W	0.29	7.4	Cloudy	
La Crosse, Wisconsin	29.44	747.8	30.16	766.1	66	18.9	84	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	67	19.4	69	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Laredo, Texas	29.65	753.1	29.97	761.2	86	30.0	45	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.26	743.2	30.06	763.5	77	25.0	77	SE	3	1.3	.....	Haze	2ks;hz	.....	.....	0	0	Fair	
Little Rock, Arkansas	29.84	757.9	30.19	766.8	75	23.9	90	S	4	1.8	.....	0	8s	.....	SW	0.14	3.6	Cloudy	
Los Angeles, California	29.61	752.1	29.95	760.7	68.0	14.4	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.58	751.3	30.12	765.0	72	22.2	85	N	4	1.8	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Lynchburg, Virginia	29.41	747.0	30.05	763.3	84	28.9	60	N	3	1.3	.....	.....	10s	.....	W	0.07	1.8	Cloudy	
Madison, Wisconsin	29.19	741.4	30.14	765.5	67	19.4	74	S	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Marquette, Michigan	29.44	747.8	30.13	765.3	60	15.6	71	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.50	723.9	30.21	767.3	77	25.0	73	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.83	757.7	30.16	766.1	82	27.8	75	SW	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Milwaukee, Wisconsin	29.46	748.3	30.17	766.3	67	19.4	60	N	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Mobile, Alabama	30.14	765.5	30.18	766.6	76	24.4	79	N	4	1.8	.....	2c	0	NE	.....	0	0	Clear	
Montgomery, Alabama	29.94	760.5	30.17	766.3	79	26.1	73	SW	3	1.3	.....	2k	0	S	.....	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.17	740.9	30.13	765.3	69	20.6	75	N	6	2.7	.....	5k	0	N	.....	1.75	44.5	Fair.....	
Mt. Washington, N. H.....	28.97	608.8	30.33	770.4	37	2.8	80	E	4	1.8	.....	2k	0	Calm	.....	0.22	5.6	Clear.....	
Nashville, Tennessee.....	29.66	753.4	30.16	766.6	75	23.9	81	NW	1	0.4	.....	.....	10ks	.....	W	0.46	11.7	Cloudy.....	
New Haven, Connecticut....	30.03	762.7	30.16	765.8	65	18.3	58	NE	12	5.4	.....	2ck	2s	Calm	Calm	0.66	16.8	Fair.....	
New London, Connecticut...	30.10	764.5	30.16	765.8	62	16.7	67	NE	10	4.5	.....	1ck	4s	NW	NE	0.91	23.1	Clearing.....	
New Orleans, Louisiana.....	30.14	765.5	30.20	767.1	81	27.2	67	SE	3	1.3	.....	1c	Haze	Calm	Calm	0	0	Hazy.....	
Newport, Rhode Island.....	30.11	764.8	30.16	766.1	61	16.1	66	NE	10	4.5	.....	.....	10s	.....	Calm	0.79	20.1	Cloudy.....	
New York, New York.....	29.95	760.7	30.13	765.3	66	18.9	64	NE	16	7.2	.....	1ck	5ks	SW	SW	0.60	15.2	Fair.....	
Norfolk, Virginia.....	29.99	761.7	30.04	763.0	83	28.3	56	SW	6	2.7	.....	1ck	0	SW	.....	0	0	Clear.....	
North Platte, Nebraska.....	27.12	688.8	29.60	751.8	64	17.8	91	SE	20	8.9	.....	0	Haze	.....	Calm	0.66	16.8	Hazy.....	
Olympia, Washington Ter..	29.87	758.7	29.91	759.7	51.0	10.6	96	S	8	3.6	.....	.....	10n	.....	S	0.42	10.7	Light rain...	
Omaha, Nebraska.....	28.90	734.0	29.96	761.0	70	21.1	90	SE	10	4.5	.....	.....	10s	.....	Calm	0.65	16.5	Cloudy.....	
Oswego, New York.....	29.88	758.9	30.20	767.1	61	16.1	77	NE	6	2.7	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Pembina, Dakota.....	29.16	740.7	29.95	760.7	58	14.4	94	SE	6	2.7	.....	.....	10s	.....	W	0	0	Threatening	
Philadelphia, Pa.....	30.06	763.5	30.11	764.8	67	19.4	74	NE	20	8.9	.....	5k	2ks	NE	NE	0	0	Cloudy.....	
Phœnix, Arizona.....	28.71	729.2	30.40	772.1	78	25.6	29	W	1	0.4	.....	0	5ks	.....	S	0	0	Fair.....	
Pike's Peak, Colorado.....	18.06	458.7	30.28	769.1	37	2.8	63	SW	28	12.5	.....	8k	0	SW	.....	0.01	0.3	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	59	15.0	18	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.36	745.7	30.15	765.8	67	19.4	74	NE	6	2.7	.....	1k	0	E	.....	0.06	1.5	Clear.....	
Port Huron, Michigan.....	29.65	753.1	30.20	767.1	63	17.2	89	NE	8	3.6	.....	2k	0	NE	.....	0	0	Clear.....	
Portland, Maine.....	30.15	765.8	30.20	767.1	61	16.1	66	NE	8	3.6	.....	1k	0	Calm	.....	0.09	2.3	Clear.....	
Portland, Oregon.....	29.96	761.0	30.05	763.3	52.5	11.4	90	S	12	5.4	.....	.....	10n	.....	S	0.33	8.4	Light rain...	
Prescott, Arizona.....	24.78	629.4	30.14	765.5	68	20.0	60	SW	.....	.....	1	8ck	0	W	.....	0	0	Fair.....	
Pilot Point, Texas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida.....	30.12	765.0	30.14	765.5	79	26.1	82	NE	10	4.5	.....	2cs	2ks	SW	Calm	0.13	3.3	Fair.....	
Red Bluff, California.....	29.62	752.3	29.97	761.7	58	14.4	48	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.90	759.4	30.11	764.8	81	27.2	78	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.59	751.6	30.19	766.8	65	18.3	68	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon.....	29.58	750.8	30.13	765.3	50	10.0	86	Calm	0	0	.....	10ck	0	Calm	.....	0.01	0.3	Clear.....	
Sacramento, California.....	29.86	758.4	29.94	760.5	61	16.1	61	N	8	3.6	.....	.....	0	.....	.....	0.05	1.3	Cloudy.....	
St. Louis, Missouri.....	29.57	751.1	30.13	765.3	70	21.1	90	N	9	4.0	.....	1c	Haze	W	.....	0	0	Clear.....	
St. Marks, Florida.....	30.15	765.8	30.17	766.3	78	25.6	82	NW	6	2.7	.....	4ck; 8c	0	Calm	.....	0.60	15.2	Clear.....	
St. Paul, Minnesota.....	29.26	743.2	30.06	763.5	66	18.9	84	SE	4	1.8	.....	8ck; 8c	0	W; Calm	.....	0	0	Fair.....	
Salt Lake City, Utah.....	25.58	649.7	29.91	759.7	67	19.4	37	NW	4	1.8	.....	0	0	.....	.....	0	0	Fair.....	
San Antonio, Texas.....	29.44	747.8	30.00	762.0	79	26.1	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Clear.....	
San Diego, California.....	29.89	759.2	29.97	761.2	61	16.1	88	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Sandusky, Ohio.....	29.55	750.6	30.20	767.1	69	20.6	70	NE	9	4.0	.....	2c	0	NE	.....	0	0	Fair.....	
Sandy Hook, New Jersey....	30.09	764.3	30.12	765.0	62	16.7	83	NE	12	5.4	.....	2k	8s	N	N	1.52	38.6	Cloudy.....	
San Francisco, California..	29.91	759.7	29.97	761.2	53	11.7	86	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear.....	
Santa Fé, New Mexico.....	23.43	595.1	29.97	761.2	57	13.9	63	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	30.08	764.0	30.17	766.3	86	29.4	64	SW	4	1.8	.....	1ck	0	SE	.....	0	0	Clear.....	
Shreveport, Louisiana.....	29.98	761.5	30.19	766.8	74	23.3	95	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy.....	
Silver City, New Mexico.....	24.39	619.5	30.36	771.1	85	29.4	58	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Smithville, North Carolina.	30.12	765.0	30.15	765.8	75	25.0	82	SW	12	5.4	.....	0	5ks	.....	SW	0	0	Fair.....	
Socorro, New Mexico.....	25.50	647.7	29.67	753.1	72	22.2	54	Calm	0	0	.....	2c	2s	Calm	Calm	0	0	Fair.....	
Springfield, Ill.....	29.51	749.5	30.19	766.8	70	21.1	61	NE	3	1.3	.....	1c	0	Calm	.....	Inap	Inap.	Clear.....	
Springfield, Massachusetts	30.05	763.3	30.17	766.3	63	17.2	57	NE	6	2.7	.....	.....	10ks	.....	NE	0.44	11.2	Cloudy.....	
Stockton, Texas.....	27.05	687.1	30.06	763.3	73	22.8	7	SE	8	3.6	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Thatcher's Island, Mass....	30.16	766.1	30.20	767.1	59	15.0	88	E	23	10.3	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Toledo, Ohio.....	29.51	749.5	30.18	766.6	66	18.9	79	NE	4	1.8	.....	1c	0	NW	.....	0	0	Clear.....	
Tucson, Arizona.....	27.49	698.2	30.04	763.0	82	27.8	52	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Umatilla, Oregon.....	29.71	754.6	30.20	767.1	45.0	7.2	61	SE	6	2.7	.....	0	8s	.....	Calm	0.01	0.3	Fair.....	
Uvalde, Texas.....	29.18	741.1	29.96	761.0	83	28.3	67	S	4	1.8	.....	5k	0	S	.....	0	0	Fair.....	
Vicksburg, Mississippi.....	29.98	761.5	30.23	767.8	78	25.6	82	SW	2	0.9	.....	5c	0	Calm	.....	0.13	3.3	Fair.....	
Virginia City, Montana.....	24.19	614.4	29.67	753.6	55	12.8	39	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.55	750.6	29.92	760.0	54	12.2	58	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.97	761.2	30.08	764.0	76	24.4	64	N	7	3.1	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	70	21.1	57	S	.....	.....	1	5k	0	Calm	.....	0	0	Fair.....	
Wilmington, N. Carolina.....	30.05	763.3	30.13	765.3	78	25.6	73	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.67	652.0	30.03	762.7	47	8.3	21	E	8	3.6	.....	1c	0	Calm	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.09	764.3	30.12	765.0	59	15.0	81	E	16	7.2	.....	.....	10ks	.....	NE	0.78	19.8	Cloudy.....	
Yankton, Dakota.....	28.73	729.7	29.96	761.0	68	20.0	84	SE	6	2.7	.....	.....	10n	.....	Calm	0.64	16.3	Light rain...	
Yuma, Arizona.....	29.08	738.9	29.83	757.7	78	25.6	57	SE	4	1.8	.....	5k	0	SE	.....	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I.....	30.07	763.8	30.12	765.0	82	27.8	78	Calm	0	0	.....	8c	0	Calm	.....	0	0	Foggy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.27	641.8	.....	.....	68.5	20.3	87	Calm	.....	.....	0	.....	10s; ks	.....	.....	0.03	0.8	.....	Thomas Herran.
Navassa, W. I.....	29.89	759.2	29.97	761.2	80	26.7	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	78	25.6	86	E	.....	.....	2	5k	7ks	E	.....	0.830	21.08	½ Clouded..	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,338 (?) ft., or 408 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,[illegible] (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,898 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.40‡	772.1‡	.....	.....	78	25.6	82	NE	8	1.3	.....	.....	2	.....	NE	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N. H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.86‡	758.4‡	.....	.....	78	25.6	84	SW	.....	.....	1	.....	9ks;n	.....	WSW	Slight	Slight	.....	.....	Cloudy	
Adams.																					
Pichilinque Bay, L. C., Mex.	29.92‡	760.0‡	.....	.....	74	23.3	76	W	.....	.....	4	.....	5	.....	W	.....	.....	Smooth	.....	Fair	
Alliance.																					
Southampton, Eng.....	29.94‡	760.5‡	.....	.....	60	15.6	55	WNW	.....	.....	5	.....	8	.....	WNW	.....	.....	.....	.....	Cloudy.....	
Ashuelot, Yokohama, Japan	29.86‡	758.4‡	.....	.....	79	26.1	95	SSW	.....	.....	1	.....	8	.....	SSW	.....	.....	Mod'ate	S	Cloudy.....	
Colorado.																					
New York, N. Y.....	30.05‡	764.0‡	.....	.....	66	18.9	68	NE	4	1.8	.....	.....	8	.....	.....	0.38	9.7	.....	.....	Cloudy.....	
Constitution, League Isl. Navy Yard, Pa.	30.11‡	764.8‡	.....	.....	67	19.4	84	NE	.....	.....	4	.....	9	SW	NE	.....	.....	.....	.....	Cloudy.....	
Enterprise, Christiania, Norway.....	29.37‡	746.0‡	.....	.....	56	13.3	100	W	.....	.....	5–7	.....	10	.....	W	.....	.....	.....	.....	Stormy.....	
Franklin. Norfolk, Va.	30.04‡	763.0‡	.....	.....	77	25.0	69	WSW	6	2.7	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Hartford. Montevideo, Uruguay....	30.28‡	769.1‡	.....	.....	58	14.4	94	NNE	4	1.8	.....	.....	10	.....	NNE	0	0	.....	.....	Cloudy	
Independence, Mare Island Navy Yard, Cal.	30.01‡	762.2‡	.....	.....	62	16.7	72	SW	4	1.8	.....	.....	??	.....	SW	.....	.....	.....	.....	Clear.....	
Kearsarge, N 40° —′ W. 65° —′.....	30.02‡	762.5‡	.....	.....	69	20.6	90	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate	NNW	Drizzling.....	
Michigan, Erie, Pa.....	30.12‡	765.0‡	.....	.....	73	22 8	72	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Shanghai, China.....	29.67‡	753.6‡	.....	.....	83	28.3	79	SSE	.....	.....	3	.....	2	.....	SSE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan.....	29.83‡	757.7‡	.....	.....	80	26.7	87	SW	.....	.....	2	.....	k	.....	.....	Very light	Very light	.....	.....	Overcast.....	
New Hampshire. Port Royal, S. C.....	30.16‡	766.1‡	.....	.....	79	26.1	74	SSW	15	6.7	.....	.....	2	.....	SSW	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.25‡	768.3‡	.....	.....	62	16.7	83	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W.	Misty.....	
Palos, Shanghai, China.....	29.71‡	754.6‡	.....	.....	81	27.2	91	SSE	.....	.....	4	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.....	.....	.....	.....	.....	79	26.1	100	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 16° 46′, W. 75° 00′.....	30.05‡	763.3‡	.....	.....	64	17.8	89	NNE	4	1.8	.....	.....	5	.....	NE	.....	.....	Smooth	SW	Fair	
Portsmouth, Newport, Rhode Island.	30.12‡	765.0‡	.....	.....	59	15.0	70	NE	.....	.....	4	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Powhatan, New York, N. Y.....	30.09‡	764.3‡	.....	.....	68	20.0	56	ENE	.....	.....	2	.....	5	.....	.....	0.15	3.8	.....	.....	Fair.....	
Quinnebaug, Constantinople, Turkey	29.76‡	754.4‡	.....	.....	83	28.3	59	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Amoy, China.....	29.78‡	756.4‡	.....	.....	81	27.2	96	SE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	Calm	Raining	
Richmond, Yokohama, Japan	29.83‡	757.7‡	.....	.....	80	26.7	87	W	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	30.05‡	763.3‡	.....	.....	78	25.6	100	SE	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md	30.09‡	764.3‡	.....	.....	75	23.9	81	N	.....	.....	3	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
Saratoga, N. 35° 24′, W. 69° 29′.....	30.20‡	767.1‡	.....	.....	75	23.9	100	WSW	.....	.....	4	.....	8	.....	Calm	0	0	Mod'ate	W	Blue sky.....	
St. Louis, League Island, Pa	30.08‡	764.0‡	.....	.....	70	21.1	75	NE	15	6.7	.....	.....	8	.....	NNE	0.025	0.64	.....	.....	Cloudy.....	
Trenton, Antwerp, Belgium.....	29.84‡	757.9‡	.....	.....	60	15.6	71	WNW	.....	.....	3–4	.....	10	.....	WSW	0.01	0.3	Smooth	.....	Squally.....	
Tuscarora, Mare Island Navy Yard, Cal	29.96‡	761.0‡	.....	.....	60	15.6	88	WSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	30.12‡	765.0‡	.....	.....	64	17.8	78	NE	.....	.....	5	.....	2	.....	E	0	0	Smooth	.....	Fair.....	
Wabash, Boston, Mass.....	30.20‡	767.1‡	.....	.....	60	15.6	65	NE	14	6.3	.....	.....	8	.....	.....	0.1	3.	.....	.....	Fair.....	
Wyoming, Trieste, Austria.....	29.78‡	756.4‡	.....	.....	87	30.6	17	NE	.....	.....	6	.....	10	.....	NE	.....	.....	Mod'ate	NE	Cloudy.....	
Wachusett, 65 m'ls above Vicksburg, Miss	30.13‡	765.3‡	.....	.....	78	25.6	91	SW	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, **instead of 7:35 A. M.,** Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima, N. 8° 08', W. 83° 34'†		30.03‡	762.7‡	82	27.8	87	SE			2		7		SE	0.04 in. or 1.0 mm	Mod'ate	WNW	Misty	Capt. Whitebur.
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		30.00‡	762.0‡	55	12.8		Calm			0		0			0			Clear	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson. N. 28° 38', E. 125° 45'...†		29.94‡	760.5‡	82	27.8		SSE			4		cs		SSE	0	Smooth	SE	D. clouds	J .A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 35° 37', E. 144° 17'..		29.77‡	756.1‡	75	23.9	100	WSW			3		7		W		4	WSW	D. clouds	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 49° 59', W. 5° 48'		30.11‡	764.8‡	59.0	15.0	88	W			4		8		W	0	Mod'ate	W	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.71‡	754.6‡				NW			6		8		NW				Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng.		29.60‡	751.5‡	67	19.4	84	W			6	5		W	0			Clear?	Captain R. W. Sarge
S. S. Ohio																		Wm. Shackford, Chief Mate
S. S. Pennsylvania																		Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 29° 30', W. 85° 27'		30.21‡	767.3‡	82	27.8	67	Calm	0	0		2c				0	Smooth		Clear.	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.10‡	764.5‡				NE			4		2				Mod'ate		Showery	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

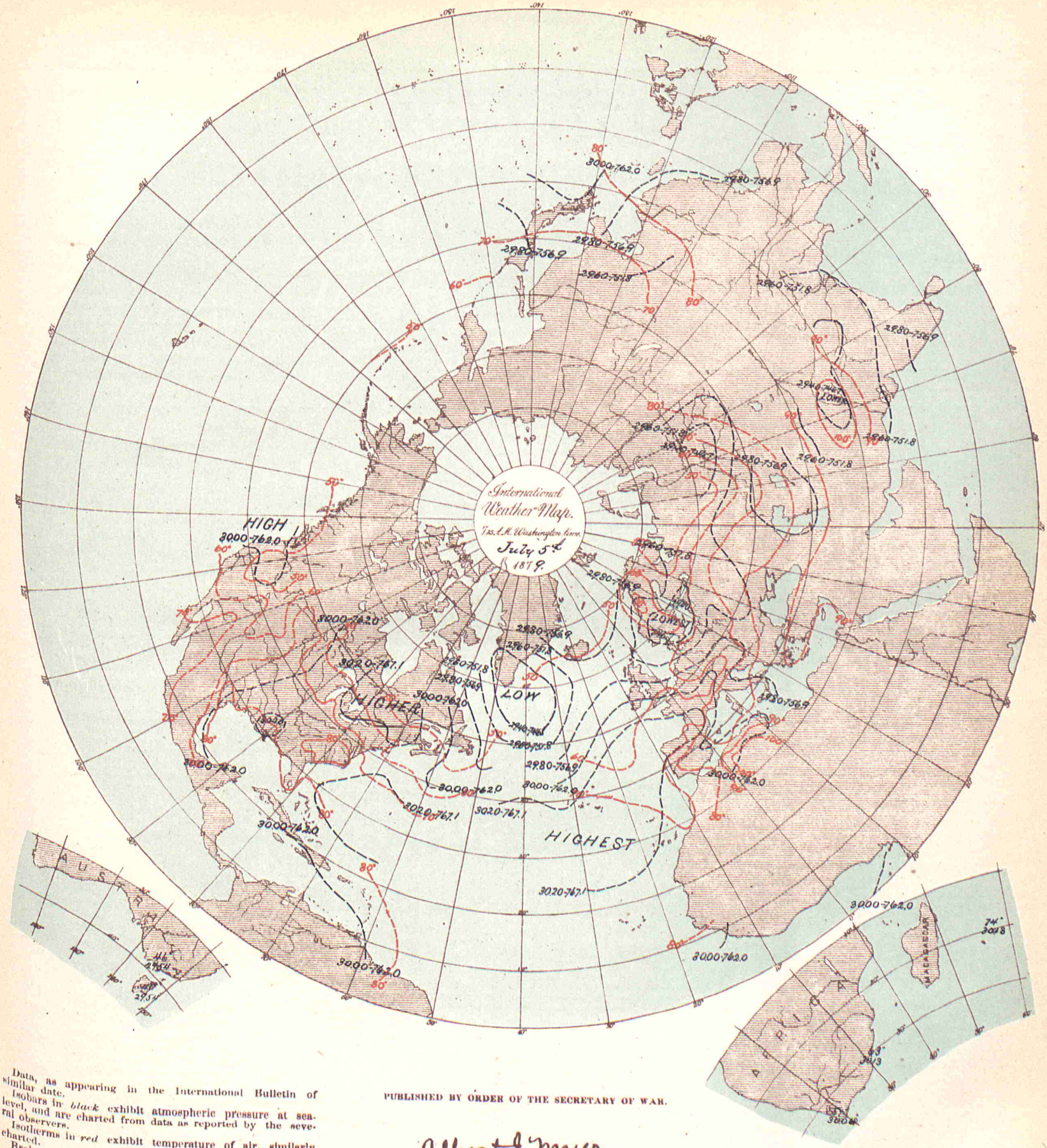
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 6, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.15	765.7	68.7	20.4		NE			2		2			0	0	Fair	
Nemours			30.10	764.5	77.9	25.5	73	N			1		8			0	0	Very cloudy	Kesxuche.
Algiers			30.06	763.4	75.9	24.4	67	ENE			5		0			0	0	Clear	Tourilliere.
La Calle			30.12	765.1	78.4	25.8	58	NNW			2		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.15	765.7															Gau.
Saida			30.01	762.3	96.8	36.0	12	N			2		2			0	0	Fair	Herbin.
Tebessa			30.10	764.6	81.7	27.6	34	N			4		2			0	0	Fair	Watrin.
Geriville			30.12	765.0	85.8	29.9	27	NNE			3		5			0	0	Cloudy	Brugniaux.
Laghouat			30.00	761.9	97.9	36.6	24	E			3		2			0	0	Fair	Bertrand.
Biskra			30.01	762.3	99.3	37.4	26	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram																			
Cracow, I. R. Observatory	29.28	743.7	29.81	757.1	72.1	22.3	28	W			2		5			0.035	0.9	Raining	Prof. Ivan Stozir.
Eperies	28.96	735.5	29.71	754.6	63.7	17.6	70	WSW			3		10			0.390	9.9		Dr. Wierzbiski.
Gratz	28.60	731.4	29.64	752.9	65.1	18.4	72	NW			4		10ks			0.028	0.70		Julius Mikolik.
Hermannstadt	28.63	727.1	29.84	757.8	65.3	18.5	59	SW			4		4			0.059	1.5		Andreas Rospini.
Kremsmünster	28.24	717.2	29.62	752.4	62.6	17.0	59	W			6		10			0.016	0.4		Prof. A. Gottschling.
Lemberg	28.59	726.2	29.93	760.3	51.6	10.9	83	WNW			3		10			0.461	11.7		Prof. C. Wagner.
Pola	28.58	726.0	29.64	750.4	59.4	15.2	76	W			2		10			0.319	8.1		Dr. T Stanecki.
Szathmar	29.78	756.5	29.89	759.2	74.8	23.8	49	WNW			1		0			0	0		I.R.HydrographicOffice.
Szegedin	29.22	742.2	29.67	753.7	60.3	15.7	72	NW			2		10			0.366	9.3	Rainy	Julius Osics, S. J.
Trieste	29.48	748.7	29.75	755.6	67.3	19.6	55	N			3		6			0.173	4.40		Karl Stancel.
Vienna	29.50	757.0	29.91	759.6	74.3	23.5	55	W			1		6			0.083	2.1	Raining	P. Busin.
	29.16	740.4	29.89	759.1	55.4	13.0	73	W			4		9			0	0		I. R. Central Met. Ob'ry

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.72	754.9	29.82	757.4	• 58.0	14.4	.....	SSE	13	5.8	.....	.....	4	.....	.....	0.090	2.29	Blue sky	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm McNeil &G.Carrick
Armagh, Observatory	.....	.....	.....	.....	56.0	13.3	.....	SSE	6	2.7	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.90	759.4	55.2	12.9	.....	W	4	1.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.88	758.9	57.8	14.3	.....	WSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.02	0.5	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.98	761.5	30.01	762.2	84	28.9	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.84	757.9	29.93	760.2	64.0	17.8	.....	WNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.92	760.0	63.0	17.2	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.83	757.7	29.96	761.0	60.9	16.1	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper R. E.
Donaghadee	29.82	757.4	29.86	758.4	53	11.7	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.95	760.7	29.97	761.2	62	16.7	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.81	757.2	30.04	763.0	61.7	16.5	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.50	698.5	29.78	756.4	64.0	17.8	.....	E	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	82	27.8	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.76	755.9	57	13.9	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.03	762.7	30.08	764.0	76.9	24.9	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.61	752.1	29.81	757.2	61.0	16.1	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.90	759.4	29.90	759.4	59	15.0	.....	N	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.79	756.7	29.96	761.0	60.6	15.9	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.83	757.7	30.05	763.3	58.6	14.7	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.97	761.2	30.09	764.3	61	16.1	.....	W	.....	.....	6	.....	6ck	.....	.....	0.04	1.0	Fair	M. P. Moyle.
Bolyhead	29.82	757.4	29.87?	758.7?	57	13.9	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	John Tilston.
Jersey	29.81	757.2	30.10	764.5	58.7	14.8	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew, Observatory	29.92	760.0	29.96	761.0	64.4	18.0	.....	WSW	5.	2.2	.....	.....	10	.....	.....	.....	.....	Drizzling	The Met'g'l Office.
Leicester, Museum	29.86	758.4	29.92	760.0	60.0	15.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.83	757.7	29.91	759.7	77.8	25.4	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.67	753.6	29.76	755.9	64	17.8	.....	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.11	764.8	84.2	29.0	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.73	755.1	29.92	760.0	66.6	19.2	.....	NW	.....	.....	3	.....	10c;k	.....	WNW	0.003	0.08	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.40	746.7	29.92	760.0	59.3	15.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.96	761.0	58	14.4	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	H. E. Bellamy.
Plymouth	29.94	760.5	30.01	762.2	64.7	18.2	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Prince Town	28.56	725.4	30.02	762.5	54.4	12.4	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	W. H. Tooker.
*Roche's Point	29.88	758.9	29.99	761.7	56	13.3	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Covered	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.81	757.2	56.2	13.4	.....	WNW	10	4.5	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.43	747.5	29.49	749.0	91.3	32.9	.....	N	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.66	753.4	29.93	760.2	64.9	18.3	.....	SW	.....	.....	2	.....	10	.....	.....	0.10	2.5	Overcast	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	58.4	14.7	74	W	.....	.....	3	.....	5	.....	.....	0.455	11.56	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.90	759.4	57.4	14.1	.....	SW	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.05	763.3	30.06	763.5	63	17.2	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.89	759.2	57.9	14.4	.....	SW	27	12.1	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	59.0	15.0	74	S	4.0	1.8	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.68	753.9	39	3.9	85	NW	.....	.....	1	.....	9k	.....	.....	0	0	.....	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.82	757.4	62.0	16.7	.....	SW	.....	.....	2	9ck	.....	NW	.....	0.23	5.8	Cloudy	Andrew Gibb
Mauritius, Observatory	30.01	762.2	30.20	767.1	72.2	22.3	65	ESE	16.0	7.2	.....	0	2	.....	.....	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.45	748.0	29.54	750.3	45.3	7.4	81	NNW	14	6.3	.....	.....	4	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.69	754.1	56	13.3	.....	S	.....	.....	3	5	0	.....	.....	0	0	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.65	753.1	50	10.0	.....	NW	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 35′, E. 28° 35′	.....	.....	29.53‡	750.0‡	87	30.6	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Capt.W. J. L. Wharton.
Agnes Wilson, N. 34° 35′, W. 73° 15′	.....	.....	30.11	764.8	75	23.9	.....	W	.....	.....	3	.....	10	.....	.....	8	wsw	Overcast	Capt. H. W. Dyke.
Astarte, N. 37° 55′, W. 37° 25′ *	.....	.....	30.32‡	770.1‡	76	24.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Capt. Parson.
British Peer, N. 56° 05′, W. 19° 50′	.....	.....	29.33‡	745.0‡	54.2	12.3	.....	SW	.....	.....	7	.....	6	.....	.....	.....	.....	Misty	Capt. Raymond.
Theophane, S. 35° 05′, E. 16° 10′	.....	.....	30.11‡	764.8‡	61.8	16.6	.....	ESE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.22	666.0	29.94	760.5	65.8	18.8	90	Calm			0	9cs				0.3	8.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.49	749.0	29.54	750.2	60.1	15.6	68	NW			4		6					Raining	
Fanöe	29.64	752.8	29.66	753.3	56.3	13.5	81	WNW			6		10						
Godthaab (Greenland)	29.58	751.2	29.62	752.3	41.7	5.4	94	Calm			0		10					Foggy	
Stykkisholm (Iceland)	29.63	752.5	29.67	753.6	50.9	10.5	75	E			7		6						
Thorshavn (Faröe)	29.72	754.9	29.76	755.8	54.5	12.5	85	E			2		9						
Vestervig	29.51	749.5	29.62	752.3	57.4	14.1	91	WNW			2		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.58	751.2	30.13	765.2	60.4	15.8	91	SW			1		8		SW	0.087	2.2	Very cloudy	Colignon, Director.
Amiens, Normal School	29.91	759.7	29.98	761.4	66.2	19	60	W			2		8		E	0.24	6.	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.75	755.7	30.01	762.2	58.5	14.7	72	NW			3				NW	0.160	3.8		Klein, Commandant.
Avignon, Normal School	30.02	762.4	30.10	764.4	75.6	24.2	43	N			2		0			0	0	Very clear	Giraud, Director.
Aar-sur-Seine	29.50	749.2	30.04	763.1	63.5	17.5	47	W			1		10		WNW	0.016	0.4	Covered	O. Saillard, Director.
Beauvais, Normal School	29.78	756.5	30.05	763.2	62.6	17	67	W			2		10		WNW	0.010	0.25	Covered	Frere Eugene Marie.
Besançon, Normal School	29.24	742.8	30.13	765.3	61.0	16.1	79	NE			2		10		NE	0.492	12.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.30	744.2	30.23	767.8	62.8	17.1	67	SW			1		8kn	SW	SW	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.57	751.0	30.11	764.7	61.2	16.2	91	WNW			1		10kn	WNW	WNW	0.138	3.5	Raining	M. Gence, Director.
Brest, Naval Observatory	29.84	758.0	30.09	764.2	66.2	19.0	73	W			1		10		W	0.059	1.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.79	756.6	30.19	766.8	72.0	22.2	44	NW			2		5		NW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.99	761.7	30.07	763.6	62.2	16.8	75	W			1		0			0	0		Lair, Director.
Chartres, Normal School	29.52	749.9	30.09	764.2	59.9	15.5	94	SW			1		10		NE	0.098	2.5	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	755.8	30.07	763.8	60.6	15.9	69	SW			2		5	WSW	WSW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.79	731.3	30.12	765.0	65.5	18.6	67	W			2		8		W	0	0		Allnard, Director.
Commercy, Normal School	29.20	741.6	30.05	763.3	58.8	14.9	63	W			3		5ckn	W	W	0.071	1.8	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.95	735.2	30.09	764.2	71.2	21.8	37	NW			5		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.37	746.0	30.12	765.1	65.8	18.8	59	NE			1		2ic	NW		0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	30.00	762.0	30.21	767.4	66.6	19.2	81	WSW			1		10			0.016	0.4	Covered	Mouillot, Director.
Le Mans, Normal School	29.80	757.0	30.11	764.8	60.8	16	91	WNW			5		8		W	0.020	0.5	Very cloudy	Poirrier, Director.
Lens-Le-Saulnier, N.School	29.24	742.6	30.15	765.7	63.7	17.6	68	WNW			1		5n	N	W	0.16	4.	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.06	763.5	30.16	766.0	62.2	16.8	72	WSW			3				SW	0.004	0.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.74	755.4	30.00	762.1	72.7	22.6	37	WNW			5–6		3			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.05	737.9	30.09	764.2	59.7	15.4	71	SW			1		10		SW	0.059	1.5	Covered	Barbier, Director.
Mont-Louis	25.01	635.2	30.32	770.2	66.6	19.2	45	E	24.2	10.8			0			0	0		M. Cave.
Nismes, Normal School	29.94	760.4	30.13	765.4	76.3	24.6	31	NW			2		2		NW	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.80	757.0	59.0	15.0	80	WSW			1		10			0.016	0.4	Raining	Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.74	577.6			52.7	11.5		N			1		2			0	0	Fair	Gen'l de Nansouty.
Perpignan	30.03	762.8	30.13	765.4	72.7	22.6	47	NE	18.6	8.3			0			0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.27	641.8			41.4	5.2	100	W			3					0.220	5.6	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.19	766.7	30.22	767.6	64.8	18.2	86	WSW			2		10	WSW	WSW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.97	761.1	30.05	763.3	59.9	15.5	79	W			1		10		W	0.055	1.4	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.07	763.8	30.10	764.5	58.3	14.6	86	WNW			2		10	WNW	WNW	0.138	3.50	Covered	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.92	760.0	30.09	764.2	58.1	14.5	78	W			1		10		WNW	0.098	2.5		E. Renou, Director.
Tarbes, Normal School	29.22	742.2	30.26	768.7	78.8	28.2	64	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.55	750.6	30.29	769.1	65.1	18.4	63	NW			5		7			0	0		M. Julier Mercadier.
Tours	29.87	758.8	30.11	764.8	62.6	17.0	83	WNW			2		10		W	0.008	0.2		Cousin-Marquet.
Versailles, Observatory	29.60	751.7	30.09	764.2	59.0	15.0	72	W			1					0.057	1.44		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.45	747.9	30.15	765.7	64.4	18	73	WNW			1		5		SE	0.134	3.4	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.55	758.1	29.88	758.8	80.6	27										0.63	16.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.54	750.4	30.16	766.0	61.9	16.6	64	NW			1		10		NW	0.008	0.2	Covered	Ch. André, Director.
Nice			29.95	760.7	78.4	25.8	55	SSW			2		0			0	0	Clear	Dr. A. Nicolas, Jr.
Zi-Ka-Wei (near Shanghai)	29.58	751.2	29.60	751.8	82.6	28.1	77	S	16.8	7.5		10ck		W		0	0	Covered	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following, Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–12	Clouds. Amount. Up'r 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.2	29.90	759.5	57.2	14.0	61	W	.....	.....	6	.....	6	W	.....	0.268	6.9	Raining	Prof. Dr. Hoh.
Berlin	29.54	750.3	29.71	754.6	62.2	16.8	70	SW	.....	.....	2	.....	8	.....	.....	0.110	2.8	Raining	Prof. Dr. Arndt.
Breslau	29.22	742.2	29.74	755.5	60.1	15.6	55	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Rainy	Royal University Obs'y.
Carlsruhe	29.58	751.3	30.00	762.1	56.1	13.4	77	SW	.....	.....	2	.....	9	SW	.....	0.134	3.4	Raining	Albert Senz.
Cassel	29.31	744.5	29.91	759.8	57.6	14.2	74	WNW	.....	.....	2	.....	5	SW	.....	0.028	0.7	.....	Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	59.0	15.0	78	W	.....	.....	4	.....	9n	.....	.....	0.24	6.	Raining	Director Lose.
Emden	.....	.....	29.79	756.6	59.7	15.4	88	NW	.....	.....	5	.....	6	.....	.....	0.335	8.5	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.58	751.4	29.95	760.6	61.7	16.5	.....	WSW	.....	.....	3	.....	6	.....	.....	0.524	13.3	.....	Physical Society.
Freienwalde on the Oder	29.67	753.5	29.71	754.5	53.8	12.1	90	WNW	.....	.....	4	.....	10ks	WNW	.....	0.094	2.4	Showery	Dr. Assmann.
Friedrichshaten	29.62	726.9	30.04	763.0	59.2	15.1	64	W	.....	.....	6	.....	10	W	.....	0.354	9.0	Raining	M. Wilhelm.
Hamburg	29.65	753.0	29.71	754.7	61.9	16.6	63	WNW	.....	.....	5	.....	7k	.....	.....	0.362	9.2	Squally	Captain F. Hegemann.
Kiel	29.67	753.5	29.68	753.9	57.4	14.1	73	W	.....	.....	3	.....	10	.....	.....	0.033	0.83	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.47	748.5	29.55	750.5	60.8	16.0	64	SW	.....	.....	5	.....	6	.....	.....	0.295	7.5	.....	Prof. E. Luther.
Köslin	.....	.....	29.56	750.7	56.1	13.4	.....	W	.....	.....	6	.....	4	.....	.....	0.098	2.5	.....	H. Müller.
Leipsic Observatory	29.39	746.5	29.81	757.1	58.6	14.8	66	WSW	.....	.....	5	.....	8	WNW	.....	0.067	1.7	Sprinkling	Prof. Bruhns, Privy Counselor.
Memel	29.46	748.3	29.51	749.5	60.1	15.6	76	SW	.....	.....	7	.....	10s;n	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.17	715.6	30.04	762.9	57.2	14.0	54	W	.....	.....	6	.....	6	W	.....	0.362	9.2	Rainy	Dr. C. Larg.
Neufahrwasser	29.56	750.9	29.58	751.3	59.4	15.2	67	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.43	747.5	29.71	754.6	63.3	17.4	52	W	.....	.....	6	.....	9	.....	.....	0.016	0.4	.....	Dr. Magener.
Strassburg (in Alsace)	29.50	749.2	30.04	763.0	63.1	17.3	48	W	.....	.....	3	.....	10	W	.....	0.079	2.00	Raining	Imp. University Observatory.
Stuttgart	29.04	737.7	29.97	761.3	59.0	15.0	68	W	.....	.....	4	.....	10	.....	.....	0.016	0.4	Raining	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.46	722.9	29.95	760.8	57.0	13.9	60	W	16	7	.....	.....	9ck	.....	W	0.047	1.2	.....	T. Hopfner.
Wustrow	29.61	752.2	29.64	752.8	58.3	14.6	77	WNW	.....	.....	6	.....	10cs	.....	.....	0.118	3.0	.....	E. Schultz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the:e, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.26	743.1	29.62	752.4	94.8	34.9	.....	SW	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.46	748.4	29.51	749.6	85.2	29.6	74	WSW	.....	.....	.....	.....	3	.....	.....	0	0	D. clouds	
Deesa	29.09	739.0	29.56	750.9	88.1	31.2	64	SSW	16.0	7.2	.....	.....	7	.....	SW	0	0	D. clouds	
Bombay	29.65	753.2	29.69	754.1	82.3	27.9	85	W	18.0	8.0	.....	.....	10	.....	W	0.01	0.3	Overcast	
Poona	27.84	707.2	29.70	754.3	77.0	25.0	74	WSW	.....	.....	.....	.....	6	ENE	WSW	0.13	3.3	D. clouds	
Lahore	28.64	727.3	29.34	745.2	102.0	38.9	40	Calm	2.4	1.1	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.21	691.2	29.77	756.2	69.4	20.8	95	W	7.0	3.1	.....	.....	10	.....	SW	0.30	7.6	Overcast	
Roorkee	28.52	724.3	29.39	746.4	88.5	31.6	78	S	2.0	0.9	.....	.....	6	.....	.....	0	0	.....	
Agra	28.89	733.7	29.44	747.6	88.7	31.5	77	Calm	.....	.....	.....	.....	10	.....	.....	0	0	.....	
Nagpur	28.53	724.6	29.56	750.9	78.7	25.9	87	W	5.3	2.4	.....	.....	10	.....	.....	0.21	5.3	Overcast	
Lucknow	29.04	737.5	29.40	746.8	86.2	30.1	88	E	4.0	1.8	.....	.....	10	.....	.....	0	0	Overcast	
Allahabad	29.09	738.9	29.40	746.6	88.1	31.2	78	Calm	1.7	0.8	.....	.....	7	E	.....	0	0	D. clouds	
Patna	29.24	742.7	29.42	747.2	85.0	29.4	85	ESE	0.6	0.3	.....	.....	10	SE	SE	0	0	Overcast	
Hazaribagh	27.46	697.5	29.45	748.0	77.8	25.4	90	E	4.6	2.1	.....	.....	10	.....	E	0.09	2.3	Showery	
Cuttack	29.37	745.9	29.45	748.0	81.8	27.7	86	SSW	2.0	0.9	.....	.....	8	.....	.....	0.75	19.0	D. clouds	
Calcutta (Alipore)	29.42	747.2	29.44	747.7	81.0	27.2	92	SSW	7.0	3.1	.....	.....	4	.....	W	0.01	0.3	Showery	
Goalpara	29.08	738.7	29.47	748.4	82.4	28.0	82	SSE	3.3	1.5	.....	.....	8	NE	.....	0.21	5.3	D. clouds	
Chittagong	29.46	748.2	29.55	750.6	80.9	27.2	93	SSE	6.8	3.0	.....	.....	9	.....	.....	0	0	.....	
Sibsagar	29.16	740.8	29.49	749.1	83.1	28.4	87	E	2.3	1.0	.....	.....	10	W	W	1.75	44.4	Overcast	
Jubbulpore	28.14	714.5	29.50	749.2	75.3	24.1	98	W	8.4	3.8	.....	.....	10	.....	S	0.23	5.8	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,352 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	Velocity.		Force.	CLOUDS. Amount.		Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Up'er	Low'r	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.49	749.0	29.88	759.0	66 2	19.0	57	S	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.5	29.89	759.2	76.6	24.8	15	WSW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.75	755.7	29.86	758.4	73.2	22.9	27	W	8.1	3.6	.....	.....	0?	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.6	29.87	758.6	75.4	24.1	23	S	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.74	755.5	29.93	760.2	72.7	22.6	58	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.02	711.7	29.85	758.3	72.3	22.4	22	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.85	758.1	29.89	759.3	72.5	22.5	49	NE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.66	753.3	29.91	759.6	75.2	24.0	37	NW	.....	.....	4	.....	1	.....	.....	0.161	4.1	.....	Cav. F. Meucci.
Leghorn	29.82	757.4	29.90	759.5	76.8	24.9	56	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.74	755.4	29.91	759.7	78.8	26.0	46	W	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.61	752.2	29.86	758.4	75 4	24.1	39	NW	24.8	11.1	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.01	736.9	29.85	758.1	83.1	28.4	62	NW	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	757.0	29.99	761.7	73.9	23.3	33	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Paciuotti.
Palermo	29.74	755.4	29.99	761.7	73.2	22.9	46	NW	11.2	5.0	.....	.....	6	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.2	29.93	760.1	74.8	23.8	61	NNE	6.3	2.8	.....	.....	2	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.8	29.96	760.9	74.5	23.6	50	SE	11.2	5.0	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.86	758.4	77.5	25.3	85	SW	11.8	5.3	.....	.....	4s	.....	.....	0.010	0.25	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.90	759.4	78.4	25.8	83	S	8.8	3.9	.....	.....	3s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.69	754.1	29.76	755.9	77.2	25.1	93	S-E	4.0	1.8	.....	7ck	1s	NW	NW	0.020	0.51	Cloudy..	The Staff.
Wakayama	29.82	757.4	29.87	758.7	79.0	26.1	80	S	3.4	1.5	.....	.....	1s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.07	636.7	30.08	763.9	68.1	14.5	72	NE	.....	.....	2	.....	8	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.46	621.2	30.06	763.4	66.2	19.0	85	S	.....	.....	3	8k	0	E	.....	0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.4	30.10	764.5	57.2	14.0	85	Calm	0	0	.....	.....	10kn	.....	.....	0.08	2.0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.6	17.0	82	N	.....	.....	2	0	10k	.....	E	Inap.	Inap	Covered	M. V. de Leon, M. E
Tlacotalpam	30.00	762.1	30.02	762.4	76.3	24.6	92	SW	.....	.....	1	9	0	S	.....	0.36	9.2	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.29	616.9	30.20	767.0	63.5	17.5	77	E	.....	.....	2	.....	10	.....	E	0.08	2.0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.63	574.9	30.11	764 7	54.3	12.4	92	E	.....	.....	4	....	10n	.....	SE	0	0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.49	596.6	30.25	768.4	57.6	14.2	83	Calm	0	0	.....	.....	10k	.....	S	0.13	3.3	Covered	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.57	751.0	29.85	758.3	80.4	26.9	91	W	.....	.....	2	10	0	W	.....	.....	.....	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.1	29.97	761.1	60.1	15.6	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.74	755.5	29.80	756.9	59.4	15.2	.....	NW	.....	.....	3	.....	.....	.....	.....	0.016	0.4	.....	
Helder	29.86	758.4	29.86	758.4	55.8	13.2	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	29.91	759.6	29.91	759.6	59.2	15.1	100	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.85	758.2	29.90	759.4	62.2	16.8	69	WNW	.....	.....	4	.....	5	.....	.....	0.087	2.2	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.52	749.8	29.58	751.2	56.1	13.4	85	W	11.0	4.9			8			0	0		
Brōno	29.56	750.8	29.60	751.8	61.2	16.2	40	NNE	18	8			1			0	0		
Christiania	29.39	746.6	29.54	750.2	61.7	16.5	46	E	11	5			7			0	0		
Tromsō	29.67	753.7	29.72	754.8	60.4	15.8	29	SW	31	14			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon,

STATIONS.	Corrected Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From	Miles per hour	Meters per second	Force	Clouds Up'er	Low'r	Upper From	Lower From	Rain Inches	Millimeters	Weather	Observer
Angra (Azores)	30.18	766.6	30.37	771.3	72.9	22.7	88	W	3.1	1.4			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.01	762.2	92.3	33.5	23	SSW	3.1	1.4			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.17	766.2	30.25	768.4	73.0	22.8	65	SW	6.9	3.1			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.8	30.10	764.6	79.3	26.3	45	NNW	11.2	5.0			0			0	0		The Staff.
Ponta Delgada (Azores)	30.33	770.4	30.40	772.2	72.7	22.6	74	SW	1.8	0.8			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Corrected Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From	Miles per hour	Meters per second	Force	Clouds Up'er	Low'r	Upper From	Lower From	Sea or swell. Height scale 0-?	Direction from	Weather	Observer
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 23', E 5° 53'			30.01	762.3	77.9	25.5		SSW			3		9		SSW	3	SSW	D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.07	763.7	64.4	18.0		WNW			3		6		WNW	1	NW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island			30.12	765.0	74.5	23.6		NE			2		5		NE			D. clouds. 1 hr's rain.fall.]	A. A. A. Loureiro.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.74	755.5	84.2	29.0		SW			2		6		SW	1	SW	Raining. 4 hours rain.]	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Corrected Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From	Miles per hour	Meters per second	Force	Clouds Up'er	Low'r	Upper From	Lower From	Rain Inches	Millimeters	Weather	Observer
Warsaw	29.22	742.1	29.63	752.6	61.5	16.4	51	WNW	13	6			10ks						Astronomical Obs.
Wilna	29.15	740.4	29.55	750.6	68.0	20.0	54	SSE	4	2			7						Astronomical Obs.
Dorpat	29.32	744.6	29.55	750.5	68.4	20.2	52	SSE	4	2			9k						Prof. Dr. Weihrauch.
St. Petersburg	29.60	751.8	29.61	752.2	59.2	15.1	63	E	9	4			7n;ks						Central Physical Obs.
Kieff	28.73	729.8	29.35	745.5	54.7	12.6	99	NNE	18	8			10n;ks					Raining	Physical Cabinet.
Nikolaiev	29.32	744.7	29.39	746.5	79.5	26.3	65	SW	22	10			7n						Kurdakof.
Kertch																			Lagorio.
Moscow	29.10	739.0	29.62	752.3	68.2	20.1	56	NW	4	2			7ks						Meteorological Obs.
Lugan	29.34	745.1	29.53	750.0	82.9	28.3	45	SSE	9	4			2						Meteorological Obs.
Archangel	29.51	749.6	29.53	750.1	43.5	6.4	90	N	13	6			10						Capt. Sseliwerstow.
Tiflis	28.40	721.3	29.72	755.0	87.3	30.7	38	SE	4	2			3k						Physical Observatory.
Astrakhan	29.85	758.1	29.76	756.0	85.5	29.7	35	S	11	5			0						Capt. Wisganow.
Krotkowo*	29.23	742.4	29.67	753.7	81.3	27.4	34	SSW	2	1			9k					Light clouds	Cand. Fatjanow.
Kasan	29.34	745.1	29.59	751.5	78.8	26.0	53	SSW	4	2			6						Physical Cabinet.
Ekaterinburg	28.78	730.9	29.71	754.5	63.9	17.7	64	SSW	13	6			9n;cks						Meteorological Obs.
Nukuss	29.61	752.1	29.83	757.7	84.6	29.2	22	NNE	13	6			6ks						
Tashkend	28.23	717.0	29.67	753.6	92.5	33.6	41	Calm	0	0			0						Teich, A. M.
Barnaul	29.12	739.7	29.59	751.6	76.5	24.7	64	NW	13	6			10					Light clouds	Meteorological Obs.
Yeniseisk	29.43	747.4	29.70	754.3	85.3	29.6	83	Calm	0	0			0						Marks.
Irkutsk																			
Peking (China)	29.46	748.3	29.60	751.9	72.3	22.4	92	Calm	0	0			10n					Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Corrected Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From	Miles per hour	Meters per second	Force	Clouds Up'er	Low'r	Upper From	Lower From	Rain Inches	Millimeters	Weather	Observer
Barcelona, Met. Obs'y	30.02	762.5	30.12	765.1	72.3	22.4	62	SSE	5.7	2.56			1			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.17	766.3	30.23	767.7	73.4	23.0	56	E	2.3	1.04		3	2	SE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.23	691.6			72.5	22.5	46	N	9.6	4.28			0					Almost clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.87	708.0	29.95	760.7	90.5	32.5	40	SW	3.0	1.33		0	2			0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.95	760.6	30.09	764.3	82.6	28.1	59	E	6.5	2.89		3	6	W		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.12	765.0	73.9	23.3	56	NE	11.2	5.0			0			0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.7	30.09	764.3	82.0	27.8	80	ENE	1.1	0.5		8c	0	WSW		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.76	756.0	29.81	757.3	81.5	27.5	83	SW	7.8	3.5			4s		W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.7	30.08	764.1	85.3	29.6	50	ESE	17.8	8.0		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.3	30.06	763.6	82.8	28.2	72	E	7.0	3.12		5kn	5kn	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—	Inches.	Millimeters.		
Haparanda	29.71	754.5	29.74	755.4	59.7	15.4	....	E	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	29.67	753.6	29.72	754.9	55.8	13.2	51	E	.....	.....	6	.....	6	.....	.....	0	0	.....	
Hernosand	29.68	751.3	29.63	752.6	54.3	12.4	77	NE	.....	.....	7	.....	5	.....	.....	0	0	.....	
Stockholm	29.19	741.3	29.36	745.8	55.9	13.3	97	NE	.....	.....	4	.....	10	.....	.....	0.370	9.4	.....	
Wisby	29.32	744.6	29.37	746.1	59.0	15.0	78	W	.....	.....	6	.....	7	.....	.....	0.091	2.3	.....	
Sub-Series.																			
Upsala	29.34	745.1	29.42	747.3	54.0	12.2	99	NNE	13.9	6.2	.....	.....	10	.....	NNE;NE	0.670	17.02	Raining.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 36° 25′, W. 4° 10′	.....	.....	30.23	767.7	84.4	29.1	.....	SSE	.....	.....	1	.....	5	.....	.....	.....	..	D. clouds.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.72	729.4	30.12	765.0	62.8	17.1	46	SSW	.....	.....	3	.....	9	.....	.....	0.047	1.2	Covered.....	The Observatory.
Zurich	28.47	723.0	30.10	764.4	56.8	13.8	83	W	.....	.....	2	.....	10	.....	.....	0.598	15.2	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.0 mm.; Thermometer, -5.2 Cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.55	750.5	85.6	29.8	52	N	18	8.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.97	761.3	76.1	24.5	.....	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.6	91.8	33.2	60	SW	.....	.....	2	.....	5s	.....	SW	0	0	D. clouds....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.13	765.3	30.19	766.8	56	13.3	81	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	30.17	766.8	30.21	767.3	56	13.3	80	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.90	759.4	30.08	764.0	63.0	17.2	71	W	.....	.....	1	8cs	4s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.17	766.3	54	12.2	70	W	.....	.....	1	5cs	0	.....	.....	0	0	Fair.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.09	764.3	30.11	764.8	61	16.1	48	SW	24	10.7	.....	5k?	0	W	.....	0	0	Clear?	J. McWilliams.
Fredericton, N. B	30.16	766.1	30.22	767.6	55.0	12.8	80	Calm	0	0	.....	2c	0	.....	.....	0.01	0.3	Fine.....	Prof. Harrison.
*Fort Garry, Manitoba	29.89	733.8	29.97	753.6	69	20.6	87	S	10	4.5	.....	5k	5ks	W	W	0.770	19.56	Cloudy.....	James Stewart.
Granton, Ontario	29.06	738.1	30.13	765.3	68	20.0	70	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	30.12	765 0	30.23	767.8	60	15.6	68	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.83	757.7	30.19	766.8	65.1	18.4	84	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.84	757.9	30.16	766.1	66	18.9	87	W	6	2.7	.....	5cs	2s	Calm	Calm	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.20	767.1	30.24	768.1	51.0	10.6	93	Calm	0	0	.....	4k	0	NW	.....	0	0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nuson.
*Montreal, Quebec	29.93	760.2	30.13	765.3	64	17.8	72	W	8	1.3	.....	2ck	2ks	N	.....	0	0	Fair.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.42	747.3	30.09	764.3	65	18.3	88	S	11	4.9	.....	2ck	0	NW	.....	0.09	2.3	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.11	764.8	72.7	22.6	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.48	748.8	30.15	765.8	65	18.3	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.53	750.0	30.16	766.1	65	18.3	84	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.65	758.2	30.17	766.3	55	12.8	81	NE	.....	.....	1	2c	2s	NE	NE	0	0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.6	30.12	765.0	55	12.8	93	E	2	0.9	.....	.....	8ks	.....	NW	Inap.	Inap.	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.15	765.8	30.20	767.1	56	13.3	79	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	30.07	763.8	30.23	767.8	55	12.8	62	S	8	3.6	.....	0	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
*Saugeen, Ontario	29.40	746.7	30.09	764.3	70	21.1	69	SW	14	6.3	.....	5cs	2ks	.....	.....	0	0	Fair.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.87	733.3	30.13	765.3	62.1	16.7	77	SW	3	1.3	.....	1cs	2s	.....	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.20	767.1	30.23	767.8	54	12.2	59	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.78	756.4	30.15	765.8	65	18.3	77	S	7	3.1	.....	5ck	Haze	NW	.....	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	30.17	766.3	30.26	768.6	62.5	16.9	57	W	1	0.4	.....	3c	0	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Woodstock	29.10	739.1	30.12	765.0	73.5	23.1	65	Calm	0	0	.....	2ck	0	W	.....	0	0	Clear.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	30.02	762.5	30.26	768.6	64.0	17.8	58	W	.....	.....	.....	0	0	.....	.....	0	0	Fair?..	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.00	762.0	30.22	767.6	65	18.3	63	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.43	747.5	30.06	763.5	65	18.3	78	S	2	0.9	.....	5ck	0	W	.....	0	0	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	40	4.4	100	SE	.....	.....	4	.....	10s;fg	.....	SE	0.09	2.3	Cloudy	
Atlanta, Georgia	28.95	735.3	30.05	763.3	72	22.2	80	NE	6	2.7	.....	10c;k	0	Calm	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.23	767.8	30.25	768.3	63	17.2	67	NE	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.89	759.2	30.05	764.0	80	26.7	74	NE	4	1.8	.....	0	5s	.....	SE	Inap.	Inap.	Fair	
Baltimore, Maryland	30.24	768.1	30.28	769.1	66	18.9	74	SE	2	0.9	.....	5k	Haze	SW	Calm	0	0	Fair	
Barnegat, New Jersey	30.25	768.3	30.27	768.8	60	15.6	71	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	27.86	707.6	29.72	754.9	69	20.6	56	NE	20	8.9	.....	5c	0	W	.....	0.70	17.8	Fair	
Boerne, Texas	28.52	724.4	29.77	756.1	75	23.9	71	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.15	689.6	30.11	764.8	48	8.9	63	NW	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	30.08	764.0	30.24	768.1	63	17.2	42	S	1	0.4	.....	3c;ck	0	NW	.....	0	0	Fair	
Brackettville, Texas	28.90	734.0	29.88	758.9	80	26.7	74	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.69	728.7	29.63	752.6	68	20.0	84	E	19	8.5	.....	.....	10ks	.....	S	0.13	3.3	Cloudy	
Brownsville, Texas	29.98	761.5	30.02	762.5	85	29.4	72	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.46	748.3	30.14	765.5	68	20.0	51	E	2	0.9	.....	2k	0	NW	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	27	SW	.....	.....	1	5ck	0	S	.....	0	0	Fair	
Burlington, Vermont	29.89	759.2	30.17	766.3	63	17.2	67	S	5	2.2	.....	0	5ks	.....	W	0	0	Fair	
Cairo, Illinois	29.74	755.4	30.12	765.0	80	26.7	82	Calm	0	0	.....	5ck	Haze	NW	.....	0	0	Fair	
Campo, California	27.39	695.7	29.96	761.0	46	7.8	92	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	72	22.2	76	NE	20	8.9	.....	.....	10s	.....	NE	0.02	0.5	Threatening	
Cape Henry, Virginia	30.21	767.3	30.22	767.6	65	18.3	78	NE	17	7.6	.....	1cs	0	N	.....	0.70	17.8	Clear	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	72	22.2	95	NE	20	8.9	.....	.....	10s	.....	NE	0.10	2.5	Cloudy	
Cape May, New Jersey	30.23	767.8	30.26	768.6	63	17.2	62	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.28	743.7	29.96	761.0	78	25.6	82	S	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	30.05	763.3	30.10	764.5	80	26.7	74	S	6	2.7	.....	2k	0	SE	.....	0	0	Fair	
Charlotte, North Carolina	29.29	744.0	30.07	763.8	72	22.2	95	E	8	3.6	.....	.....	10s	.....	E	1.01	25.7	Cloudy	
Chattanooga, Tennessee	29.32	744.7	30.08	764.0	78	25.6	73	NE	2	0.9	.....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	68	20.0	22	W	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Chicago, Illinois	29.37	746.0	30.03	762.7	73	22.8	63	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.50	749.3	30.13	765.3	73	22.8	63	E	2	0.9	.....	1cs	0	Calm	.....	0	0	Clear	
Cleveland, Ohio	29.43	747.5	30.14	765.5	66	18.9	59	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.27	718.0	29.87	758.7	74	23.3	59	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.31	744.5	30.10	764.5	81	27.2	42	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.15	715.0	29.74	755.4	79	26.1	74	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.61	752.1	30.06	763.5	75	23.9	95	S	8	3.6	.....	0	0	.....	.....	0.07	1.8	Clear	
Davenport, Iowa	29.35	745.5	29.96	761.0	73	22.8	76	S	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Deadwood, Dakota	25.29	642.4	.....	.....	59	15.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.88	733.5	30.00	762.0	76	24.4	73	S	9	4.0	.....	2ck	0	S	.....	0	0	Fair	
Denison, Texas	29.27	743.4	30.03	762.7	76	24.4	86	S	7	3.1	.....	5k	5ks	S	S	0	0	Cloudy	
Denver, Colorado	24.78	629.4	30.00	762.0	67	19.4	37	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.02	737.1	29.85	758.2	75	23.9	81	SW	6	2.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Detroit, Michigan	29.45	748.0	30.10	764.5	67	19.4	79	SW	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.34	694.4	29.49	749.0	74	23.3	76	S	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Dubuque, Iowa	29.28	743.7	29.95	760.7	69	20.6	70	SE	4	1.8	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Duluth, Minnesota	29.19	741.4	29.85	758.2	56	13.3	94	SW	4	1.8	.....	.....	10n	.....	SW	0.68	17.3	Heavy rain	
Eagle Pass, Texa	29.24	742.7	29.92	760.0	80	26.7	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.15	765.8	30.21	767.3	60	15.6	55	W	5	2.2	.....	10c	Haze	W	Calm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	83	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.26	667.0	.....	.....	70	21.1	75	E	4	1.8	.....	0	2s	.....	W	0.03	0.8	Fair	
Erie, Pennsylvania	29.44	747.8	30.13	765.3	69	20.6	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.35	745.5	29.98	761.5	68	20.0	84	S	8	3.6	.....	.....	10s	.....	S	0.33	8.4	Cloudy	
Florence, Arizona	28.41	721.6	30.01	762.2	85	29.4	38	W	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.68	703.1	.....	.....	59	15.0	76	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.25	642.1	30.24	768.1	67	19.4	74	W	4	1.8	.....	8ck	0	.....	.....	0.59	15.0	Fair	
Fort Gibson, Indian Ter	29.52	749.8	30.03	762.7	80	26.7	74	SE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Grant, Arizona	25.27	643.4	30.07	763.8	71	21.7	71	Calm	0	0	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Fort Griffin, Texas	28.76	730.5	29.97	761.2	78	25.6	73	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.26	692.4	.....	.....	65	18.3	73	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.82	706.6	29.65	753.1	75	23.9	77	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.79	731.3	29.85	758.2	76	24.4	82	S	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Stevenson, Dakota	27.91	708.9	.....	.....	63	17.2	88	N	6	2.7	.....	4c	4s	W	N	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	36	NW	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.32	719.3	29.81	757.2	80	26.7	59	S	7	3.1	.....	2k	0	.....	.....	0	0	Fair	
Galveston, Texas	30.07	763.8	30.12	765.0	82	27.8	75	S	7	3.1	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	28.95	735.3	29.96	761.0	78	25.6	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.44	747.8	30.06	763.5	73	22.8	63	S	10	4.5	.....	2ck	0	SW	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.06	738.1	29.96	761.0	78	25.6	78	SW	8	3.6	.....	0	2s	.....	S	0	0	Fair	
Indianapolis, Indiana	29.32	744.7	30.06	763.5	74	23.3	63	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	30.06	763.5	30.09	764.3	81	27.2	87	S	5	2.2	.....	5c	2ks	W	S	0.09	2.3	Fair	
Jacksboro, Texas	28.92	734.6	30.00	762.0	81	27.2	74	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.09	764.3	82	27.8	75	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.34	745.2	29.91	759.7	79	26.1	74	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.07	763.8	30.11	764.8	84	28.9	71	SW	3	1.3	.....	1k	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.20	767.1	30.23	767.8	68	20.0	79	NE	20	8.9	.....	0	2s	.....	NE	0.47	11.9	Fair	
Knoxville, Tennessee	29.14	740.1	30.11	764.8	73	22.8	83	NE	4	1.8	.....	1cs	0	Calm	.....	0.50	12.7	Clear	
La Crosse, Wisconsin	29.18	741.1	29.88	758.9	72	22.2	76	S	10	4.5	.....	10ck	0	S	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.02	662.4	30.23	767.8	70	21.1	66	W	1	0.4	.....	2k	5s	NW	SW	0.06	1.5	Cloudy	
Laredo, Texas	29.61	752.1	29.93	760.2	82	27.8	52	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.89	759.2	77	25.0	82	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.77	756.1	30.11	764.8	79	26.1	78	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.62	752.3	29.96	761.0	62.0	16.7	83	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.54	750.3	30.07	763.8	77	25.0	77	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.55	750.6	30.22	767.6	70	21.1	89	NE	4	1.8	.....	.....	10s	.....	NE	0.85	21.6	Cloudy	
Madison, Wisconsin	29.01	736.8	29.95	760.7	70	21.1	75	S	9	4.0	.....	8c	0	W	.....	0	0	Fair	
Marquette, Michigan	29.24	742.7	29.90	759.4	70	21.1	75	SW	4	1.8	.....	10k	0	SW	.....	0.24	6.1	Cloudy	
Mason, Texas	28.44	722.4	30.12	765.0	80	26.7	66	S	5	2.2	.....	0	1s	.....	S	0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.09	764.3	83	28.3	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.30	744.2	30.00	762.0	69	20.6	70	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.09	764.3	30.13	765.3	79.5	26.4	76	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Montgomery, Alabama	29.89	759.2	30.12	765.0	75	23.9	85	NW	6	2.7	.....	4k	5ks	W	W	1.26	32.0	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.16	740.7	30.12	765.0	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.00	609.6	30.36	771.2	37	2.8	71	N	11	4.9	.....	0	2ks	.....	N	0	0	Clear	
Nashville, Tennessee	29.57	751.1	30.08	764.0	81	27.2	70	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
New Haven, Connecticut	30.19	766.8	30.25	768.3	65	18.3	63	N	1	0.4	.....	8ck	0	Calm	.....	0	0	Cloudy	
New London, Connecticut	30.19	766.8	30.24	768.1	65	18.3	49	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.08	764.0	30.14	765.5	81	27.2	74	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.21	767.3	30.26	768.6	62	16.7	61	NE	4	1.8	.....	2c	0	W	.....	0	0	Clear	
New York, New York	30.09	764.3	30.27	768.8	63	17.2	61	W	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.18	766.6	30.24	768.1	69	20.6	70	NE	8	3.6	.....	0	1s	.....	NE	0.14	3.6	Clear	
North Platte, Nebraska	26.94	684.3	29.35	745.5	72	22.2	85	S	19	8.5	.....	5k	5s	SW	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	48.5	9.2	93	SW	2	0.9	.....	2c	2s	W	NW	0.08	2.0	Fair	
Omaha, Nebraska	28.72	729.5	29.74	755.4	81	27.2	74	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.88	758.9	30.20	767.1	63	17.2	72	S	6	2.7	.....	8c	0	W*	.....	0	0	Fair	
Pembina, Dakota	28.85	732.8	29.64	752.6	63	17.2	100	SE	6	2.7	.....	.....	10s	.....	SW	1.33	33.8	Cloudy	
Philadelphia, Pa.	30.21	767.3	30.26	768.6	68	20.0	56	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.67	728.2	30.36	771.1	82	27.8	42	W	1	0.4	.....	0	5ks	.....	S	0	0	Fair	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	76	24.4	63	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	58	14.4	12	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.36	745.7	30.14	765.5	66	18.9	69	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.46	748.3	30.10	764.5	69	20.6	70	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.16	766.6	30.23	767.8	60	15.6	60	SW	4	1.8	.....	8k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	30.05	763.3	30.12	765.0	55.0	12.8	81	N	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Prescott, Arizona	24.80	629.9	30.16	766.1	61	16.1	40	W	.....	.....	1	2ck	0	W	.....	0	0	Fair	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	81	27.2	78	SW	3	1.3	.....	5cs;k	0	SW	.....	0.12	3.0	Fair	
Red Bluff, California	29.54	750.3	29.80	759.2	64	17.8	39	NW	6	2.7	.....	10cs	0	S	.....	0	0	Cloudy	
Rio Grande City, Texas	29.76	755.9	29.96	761.0	85	29.4	61	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.56	750.8	30.16	766.1	64	17.8	63	SW	5	2.2	.....	2k	8s	SW	SW	0	0	Cloudy	
Roseburg, Oregon	29.52	749.8	30.09	764.3	53	11.7	80	NW	1	0.4	.....	8k	2ks	Calm	Calm	0	0	Cloudy	
Sacramento, California	29.83	757.7	29.91	759.7	56	13.3	81	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.04	763.0	76	24.4	82	S	10	4.5	.....	2ck	1ks	Calm	Calm	0	0	Fair	
St. Marks, Florida	30.11	764.8	30.12	765.0	76	24.4	77	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.02	737.1	29.81	757.2	66	18.9	99	N	17	7.6	.....	.....	10n	.....	Calm	0.62	13.2	Heavy rain	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	60	15.6	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.39	746.5	29.94	760.5	80	26.7	78	Calm	0	0	.....	10k	0	Calm	.....	0	0	Cloudy	
San Diego, California	29.90	759.4	29.97	761.2	61	16.1	88	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.49	749.0	30.14	765.5	70	21.1	57	E	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	63	17.2	67	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.91	759.7	29.98	761.5	53	11.7	86	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	60	15.6	71	Calm	0	0	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Savannah, Georgia	30.00	762.0	30.09	764.3	86	30.0	65	S	5	2.2	.....	1ck	Haze	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.90	759.4	30.12	765.0	77	25.0	82	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.11	764.8	30.14	765.5	79	26.1	87	NE	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Socorro, New Mexico	25.44	646.2	29.51	749.5	71	21.7	66	S	3	1.3	.....	2c	2s	Calm	Calm	0.10	2.5	Fair	
Springfield, Ill.	29.40	746.7	30.07	763.8	77	25.0	69	S	6	2.7	.....	1k	Haze	S	Calm	0	0	Clear	
Springfield, Massachusetts	30.11	764.8	30.24	768.1	65	18.3	68	S	4	1.8	.....	2c	2ks	NW	NW	0	0	Fair	
Stockton, Texas	26.99	685.5	29.99	761.7	74	23.3	5	SE	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy	
Thatcher's Island, Mass.	30.20	767.1	30.25	768.3	63	17.2	89	SE	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Toledo, Ohio,	29.45	748.0	30.11	764.8	70	21.1	70	SE	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
Tucson, Arizona	27.49	698.2	30.04	763.0	83	28.3	46	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Umatilla, Oregon	29.66	753.4	30.15	765.8	52.0	11.1	79	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.90	759.4	30.15	765.8	80	26.7	78	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.24	615.7	29.72	754.9	47	8.3	34	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.89	759.2	55	12.8	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.16	766.1	30.27	768.8	67	19.4	64	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	71	21.7	58	S	.....	.....	1	2cs	Haze	NW	Calm	0	0	Fair	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	73	22.8	90	NE	6	2.7	.....	2k	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	42	5.6	42	NE	7	3.1	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Wood's Holl, Mass.	30.2A	767.3	30.25	768.3	63	17.2	62	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.49	723.6	29.08	738.9	77	25.0	77	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.65	753.1	29.81	757.2	73	22.8	69	Calm	0	0	.....	2k	Haze	SW	Calm	0.05	1.3	Fair	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2k	0	Calm	.....	0	0	Fair	
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	65.0	18.3	85	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.45	11.4	.....	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.07	763.8	30.07	763.8	77	25.0	91	SE	.....	.....	2	3c	4k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort MacKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,80 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.30‡	769.6‡	.....	.....	81	27.2	87	NW	3	1.3	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.80‡	756.9‡	.....	.....	78	25.6	86	SW	.....	.....	1	.....	4k;ck	.....	WSW	Slight	Slight	.....	.....	Fair	
Adams. Pichilinque Bay, L. C., Mex.	29.87‡	758.7‡	.....	.....	76	24.4	82	S	.....	.....	2	.....	2	.....	S	.....	.....	Smooth	.....	Fair	
Alliance. Southampton, Eng	29.98‡	761.5‡	.....	.....	60	15.6	82	SW	.....	.....	3	.....	10	.....	W	.....	.....	.....	.....	Overcast	
Ashuelot, Yokohama, Japan	29.75‡	755.6‡	.....	.....	78	25.6	95	SW	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Colorado. New York, N. Y.	30.23‡	767.8‡	.....	.....	65	18.3	63	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constellation. N 44° 08′, W. 63° 53′	30.21‡	767.3‡	.....	.....	53	11.7	86	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Hazy	
Constitution, League Isl. Navy Yard, Pa.	30.26‡	768.6‡	.....	.....	66	18.9	84	ENE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Copenhagen, Denmark	29.49‡	749.0‡	.....	.....	61	16.1	71	NW	.....	.....	3–4	.....	3	.....	NW	.....	.....	.....	.....	Clear.	
Franklin. Norfolk, Va.	30.21‡	767.3‡	.....	.....	70	21.1	75	ENE	7.2	3.2	.....	.....	5	.....	ENE	0.12	3.0	.....	.....	Fair	
Hartford, Montevideo, Uruguay	30.08‡	764.0‡	.....	.....	59	15.0	76	N	5	2.2	.....	.....	10	.....	N	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.98‡	761.5‡	.....	.....	61	16.1	71	SW	8	3.6	.....	.....	7	.....	SW	.....	.....	.....	.....	Clear?	
Kearsarge, N. 40° —′ W. 64° —′	29.94‡	760.5‡	.....	.....	68	20.0	90	NE	.....	.....	6	.....	8	.....	NE	.....	.....	Mod'ate	NE	Fair	
Michigan, Erie, Pa.	30.08‡	764.0‡	.....	.....	72	22.2	53	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Shanghai, China	29.59‡	751.6‡	.....	.....	84	28.9	49	S	.....	.....	4–5	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	29.76‡	755.9‡	.....	.....	77	25.0	??	W	.....	.....	1	.....	kn	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.08‡	764.0‡	.....	.....	81	27.2	83	SSE	9	4.0	.....	.....	2	.....	SE	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.27‡	768.8‡	.....	.....	63	17.2	83	SE	.....	.....	3	.....	8	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.60‡	751.8‡	.....	.....	83	28.3	96	SSE	.....	.....	5	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	.....	.....	.....	.....	64	17.8	89	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, N. 14° 42′, W. 76° 16′	30.08‡	764.0‡	.....	.....	64	17.8	89	NE	5	2.2	.....	.....	8	.....	.....	0	0	Smooth	SW	Fair	
Portsmouth, Newport, Rhode Island.	30.27‡	768.8‡	.....	.....	61	16.1	61	NE	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Powhatan, New York, N. Y.	30.22‡	767.6‡	.....	.....	66	18.9	68	E	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.52‡	749.8‡	.....	.....	83	28.3	59	NE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.79‡	756.7‡	.....	.....	83	28.3	87	SSW	.....	.....	2	.....	8	.....	Calm	.....	.....	Smooth	Calm	Clear	
Richmond, Yokohama, Japan	29.74‡	755.4‡	.....	.....	81	27.2	87	WSW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	.....	Fair	
Rio Bravo, Brownsville, Texas	30.03‡	762.7‡	.....	.....	81	27.2	91	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	30.29‡	769.4‡	.....	.....	67	19.4	84	NE	.....	.....	1	.....	2	.....	N	0	0	.....	.....	Clear	
Saratoga, N. 37° 00,′ W. 70° 59′	30.08‡	764.0‡	.....	.....	73	22.8	100	NNE	.....	.....	6	.....	8	.....	Calm	Light	Light	Mod'ate	N;E	Raining	
St. Louis, League Island, Pa	30.20‡	767.1‡	.....	.....	68	20.0	70	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Antwerp, Belgium	29.93‡	760.2‡	.....	.....	60	15.6	76	NW	.....	.....	2–3	.....	8	.....	W	0.02	0.5	Smooth	.....	Cloudy	
Tuscarora, Mare Island Navy Yard, Cal	29.95‡	760.7‡	.....	.....	59	15.0	88	WSW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Huntington, Long Isl., N. Y.	30.27‡	768.8‡	.....	.....	61	16.1	88	NNW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash. Boston, Mass.	30.28‡	769.1‡	.....	.....	65	18.3	57	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Wyoming, Trieste, Austria	29.88‡	758.9‡	.....	.....	69	20.6	61	W	.....	.....	3	.....	2	.....	W	.....	.....	Smooth	W	Fair	
Wachusett, Ben Lomond, Arkansas.	30.05‡	763.3‡	.....	.....	80	26.7	87	SW	.....	.....	1–2	.....	2	.....	N	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 7° 41′, W. 79° 50′ †		29.95‡	760.7‡	80	26.7	96	NW			3		6		NNW	0.5 in. or 1.3 mm	Small	confused	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal †		29.92‡	760.0‡	64	12.2		NW			2		4?		NW	0			Cloudy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 30° 32′, E. 130° 31′ †		30.01‡	762.2‡	82	27.8		Var.			3		ok		S	0	Smooth	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 35° 09′, E. 141° 00′		29.73‡	755.1‡	78	25.6	95	WSW			6		5		WSW	5		SW	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 49° 46′, W. 11° 16′		30.00‡	762.0‡	59.0	15.0	94	SW			4		10			0	Long	WSW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.71‡	754.6‡				NW			5		10		NW				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng.		29.84‡	757.9‡	69	20.6	90	W			5		8		W	Light			Cloudy	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 37′, W. 84° 42′		30.15‡	765.8‡	84	28.9	79	NW	3	1.3			2k		N	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.11‡	764.8‡				NE			5		2				Mod'ate		Showery	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 7, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.06	763.5	68.2	20.1		NE			4		2			0	0	Fair	
Nemours			30.07	763.8	77.4	25.2	80	N			2		0			0	0	Clear	Kesxuche.
Algiers			30.02	762.6	76.3	24.6	72	NE			4		0			0	0	Clear	Tourlliere.
La Calle			30.11	764.8	76.5	24.7	75	NNW			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.18	766.6															Gau.
Saida			30.01	762.3	93.2	34.0	11	NNW			2		0			0	0	Clear	Herbin.
Tebessa			30.10	764.6	83.3	28.5	41	NNW			3		0			0	0	Clear	Watrin.
Geriville			30.13	765.4	86.2	30.1	31	NNE			6		5			0	0	Cloudy	Brugnlaux.
Laghouat			30.01	762.2	98.2	36.8	24	NW			4		0			0	0	Clear	Bertrand.
Biskra			30.05	763.3	98.2	36.8	34	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.40	746.7	29.93	760.1	73.6	23.1	84	SW			4		2			0	0		Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.05	737.8	29.80	756.9	61.5	16.4	64	W			3		7			0.110	2.8		Dr. Wierzbiski.
Eperies	28.94	735.1	29.79	756.6	68.0	20.0	72	S			2		9ks		Calm	0	0		Julius Mikolik.
Gratz	28.71	729.1	29.92	759.9	68.7	20.4	50	SW			3		3			0	0		Andreas Rospini.
Hermannstadt	28.50	723.8	29.89	759.2	61.9	16.6	64	WNW			4		5			0	0		Prof. A. Gottschling.
Kremsmünster	28.61	726.7	29.95	760.7	61.3	16.3	60	WNW			3		10			0.571	14.5		Prof. C. Wagner.
Lemberg	28.76	730.6	29.77	756.1	58.3	14.6	82	NW			4		9			0.339	8.6		Dr. T Stanecki.
Pola	29.87	758.7	29.98	761.4	79.5	26.4	38	S			1		4			0	0		I.R.Hydrographic Office.
Szathmar	29.41	747.0	29.86	758.5	67.3	19.6	55	SW			4		5			0.201	5.1		Julius Csics, S. J.
Szegedin	29.65	753.0	29.92	759.9	69.1	20.6	50	NE			3		5			0	0		Karl Stancel.
Trieste	29.91	759.6	30.01	762.2	74.5	23.6	54	SW			1		7			Inap.	Inap.		P. Busin.
Vienna	29.22	742.3	29.97	761.1	64.6	18.1	54	W			4		5			0.311	7.9		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Observer.
Arlon	Prof. M. Passau.
Brussels	Royal Observatory.
Furnes	M. E. de Cae.
Maeseyck	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past ¾ hours. Inches.	Rain-fall or melted snow in the past ¾ hours. Millimeters.	Weather.	Observer
Aberdeen	29.29	744.0	29.39	746.5	61.8	16.6	.....	WNW	14	6.3	.....	.....	7	.....	.....	0.090	2.29	D. clouds.. ..	W. Boswell.
Ardrossan	29.47	748.5	29 48	748.8	58	14.4	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.29	744.0	29.51	749.5	59.8	15.4	.....	SW	15	6.7	.....	.....	9	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.62	752.3	59.1	15.1	.....	WNW	29	13.0	.....	.....	2	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.61	752.1	52.3	11.3	.....	WSW	24	10.7	.....	.....	6	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.22	742.2	29.62	752.3	58.6	14.8	.....	NW	.....	.....	5	.....	6	.....	.....	0.11	2.8	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	30.02	762.5	30.05	763.3	76.5	24.7	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.54	750.3	29.63	752.6	69.0	20.6	.....	SW	.....	.....	3	.....	7	.....	.....	Blank	Blank	D. clouds....	H. Todd.
Cardington	.....	.....	29.63	752.6	71.4	21.9	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.59	751.6	29.72	754.9	65.0	18.3	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper R. E.
Donaghadee	29.48	748.8	29.52	749.8	62	16.7	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.71	754.6	29.74	755.4	58	14.4	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling....	J. Costello.
Falmouth, Observatory	29.60	751.8	29.82	757.4	61.0	16.1	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.54	699.5	29.82	757.4	50.0	10.0	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	80	26.7	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds...	
Galway, Queen's College	.....	.....	29.50	749.3	55	12.8	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	77.1	25.1	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.26	743.2	29.46	748.3	57.2	14.0	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	29.62	752.1	29.62	752.3	67	19.4	.....	WSW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.55	750.6	29.71	754.6	69.0	20.6	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.65	753.1	29.86	758.4	58.5	14.7	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.77	756.1	29.89	759.2	61	16.1	.....	W	.....	.....	2	.....	8k	.....	.....	0.34	8.6	Misty.....	M. P. Moyle.
Holyhead	29.62	752.3	29.64	752.8	59	15.0	.....	SW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.64	752.8	29.92	760.0	58.3	14.6	.....	WSW	.....	.....	5	.....	10	.....	.....	Blank	Blank	Overcast.....	J. Fisher.
Kew, Observatory	29.67	753.6	29.71	754.6	63.9	17.7	.....	WSW	8	3.6	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
Leicester, Museum.	29.37	746.0	29.61	752.1	65.3	18.5	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.95	760.7	76	24.4	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	A. King.
Nairn	29.27	743.4	29.36	745.7	60	15.6	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear..	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.11	764.8	84.0	28.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.43	747.5	29.61	752.1	70.2	21.2	.....	WNW	.....	.....	4	.....	8k	.....	SW	0.159	4.04	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.62	752.3	64.6	18.1	.....	WSW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.70	754.4	64	17.8	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	Sqdally.....	H. E. Bellamy.
Plymouth	29.72	754.9	29.79	756.7	61.7	16.5	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	John Merrifield.
Prince Town	28.35	720.1	29.80	756.9	54.2	12.3	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Fine	W. H. Tooker.
*Roche's Point	29.65	753.1	29.75	755.6	59	15.0	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.9	55	12.8	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.35	745.5	54.2	12.3	.....	W	20	8.9	.....	.....	8	.....	.....	.....	.....	D. clouds....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.78	756.4	29.84	757.9	81.2	27.3	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	Serg't W. H.Lyne.
Sheffield	29.36	745.7	29.63	752.6	62.9	17.2	.....	W	.....	.....	5	.....	8	.....	.....	0.01	0.3	Overcast....	W. F. Cooper.
Silloth Rectory	29.47	748.5	29.50	749.3	59.0	15.0	74	W	.....	.....	4	.....	4	.....	.....	0.300	7.62	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.61	752.1	58.8	14.9	.....	SW	19	8.5	.....	.....	8	.....	.....	.....	.....	Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	29.53	750.0	29.74	755.4	62.9	17.2	.....	SW	.....	.....	8-4	.....	9	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.77	756.1	29.78	756.4	61	16.1	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.62	752.3	29.65	753.1	58.8	14.9	.....	SW	34	15.2	.....	.....	7	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	63.2	17.3	55	SSW	11.4	5.1	.....	0	5	.....	.....	0	0	Fair.	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.43	747.5	44	6.7	86	NW	.....	.....	1	.....	5k	.....	.....	0.04	1.0	Raining	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.48	748.8	60.0	15.6	.....	W	.....	.....	4	.....	7k	.....	.....	0.06	1.5	Cloudy.....	Andrew Gibb
Mauritius, Observatory	29.95	760.7	30.14	765.6	73.4	23.0	67	ESE	14.5	6.5	.....	0	2	.....	ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.82	757.4	46.9	8.3	74	NW	14	6.3	.....	.....	7	.....	.....	0.02	0.5	Fine.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.33	745.0	55	12.8	.....	SW	.....	.....	6	10	5	SW	.....	0	0	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.37	746.0	50	10.0	.....	SE	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
H. M. S. "Fawn," N. 40° 35′. E. 28° 35′	.....	.....	29.85‡	758.2‡	72	22.2	.....	NE	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds.....	Capt.W.J.L. Wharton.
Agnes Wilson, N. 34° 46′, W. 72° 00′	.....	.....	30.18	766.6	74	23.3	.....	ENE	.....	.....	3	.....	3	NW	NW	3	NE	D. clouds.....	Capt. H. W. Dyke.
Astarte, N. 38° 30′, W. 36° 50′	.....	.....	30.36‡	770.9‡	77	25.0	.....	S	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Parson.
British Peer, N. 57° 50′, W. 14° 30′	.....	.....	29.03‡	737.3‡	52.2	11.2	.....	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	Raining.....	Capt. Raymond.
Theophane, S. 35° 35′, E. 13° 25′	.....	.....	30.17‡	766.3‡	62.2	16.8	.....	NNW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.
Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	68.0	20.0	93	NE			2	9s				1.8	46.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	Observer.
Copenhagen	29.58	751.2	29.62	752.4	58.5	14.7	63	WNW			4		5						
Fanöe	29.58	751.2	29.60	751.7	58.3	14.6	86	SSW			4		10					Raining	
Godthaab (Greenland)	29.87	758.7	29.91	759.8	41.5	5.3	85	Calm			0		10						
Stykkisholm (Iceland)	29.46	748.3	29.50	749.4	56.3	13.5	61	N			6		0						
Thorshavn (Faröe)	29.28	743.8	29.32	744.7	48.7	9.3	88	NE			2		10						
Vestervig	29.46	748.2	29.57	751.0	56.3	13.5	80	S			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	Observer.
Alençon, Normal School	29.45	747.9	30.00	761.9	67.3	19.6	76	SW			1		8		SW	0.110	2.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.75	755.7	29.86	758.5	60.8	16	91	SSW			1		10			0.205	5.2	Covered	Bonvallet, Director.
Arras, Engin'r School	29.61	752.1	29.86	758.5	59.0	15.0	93	W			3				W	0.157	4.0		Klein, Commandant.
Avignon, Normal School	29.98	761.6	30.07	763.6	79.9	26.6	43	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.47	748.4	30.02	762.4	61.0	16.1	73	SW			1		10		SW	0.051	1.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.65	753.1	29.91	759.7	62.6	17	78	WSW			3		10		W	0.128	3.25	Covered	Frere Eugene Marie.
Besançon, Normal School	29.19	741.4	30.07	763.7	65.8	15.8	77	SW			1		10		NE	0.413	10.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.2	30.19	766.8	68.7	20.4	71	SW			1		5ck	W	SW	0.370	9.4	Cloudy	Marlot, Director.
Bourges, Normal School	29.51	749.6	30.06	763.4	64.0	17.8	84	W			1		10kn	W	W	0.138	3.5	Covered	M. Gence, Director.
Brest, Naval Observatory	29.67	753.5	29.91	759.7	59.7	15.4	89	SW			3		10		SW	0	0	Misty	Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.66	753.3	30.05	763.3	83.5	28.6	49	W			2		0			0	0	Clear	September, Dir.
Caen, Normal School	29.84	757.8	29.91	759.7	62.2	16.8	90	SSW			1				W	0.322	8.2		Lair, Director.
Chartres, Normal School	29.50	749.4	30.07	763.8	57.6	14.2	95	W			1		9		NE	0.071	1.8		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.66	753.4	29.98	761.4	57.9	14.4	89	W			1		5	W	W	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.73	729.6	30.03	762.7	73.6	23.1	50	W			1		8		W	0	0		Alluard, Director.
Commercy, Normal School	29.13	739.9	29.98	761.6	58.3	14.6	84	W			3		10					Light rain	Fr. Coulet, Director.
Commune de Gréasque*	28.95	735.2	30.09	764.2	78.8	26.0	41	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.35	745.4	30.09	764.2	71.6	22.0	61	WNW			2		5ckn		NW	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.88	759.0	30.10	764.4	65.6	18.6	77	WSW			1		10			0.016	0.4	Covered	Mouillot, Director.
Le Mans, Normal School	29.70	754.4	30.00	762.0	67.6	19.8	67	W			6		8		SW	0.020	0.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.5	30.10	764.5	68.2	20.1	69	WSW			1		5k		SW	0.329	8.35	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.92	760.0	30.02	762.6	63.3	17.4	76	SW			3				SW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.71	754.5	29.97	761.1	82.6	28.1	41	WNW			2		6			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.97	735.8	30.00	762.0	61.2	16.2	75	SW			3		10		SW	0	0	Covered	Barbier, Director.
Mont-Louis	25.01	635.2	30.32	770.2	70.7	21.5	44	E	15.0	6.7			3			0	0		M. Cave.
Nismes, Normal School	29.83	757.7	30.03	762.7	84.6	29.2	38	NW			1		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.70	754.3	57.7	14.3	97	SW			2		10			0.126	3.2	Raining	Marié Davy, Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.74	577.7			57.2	14.0		W			2		0			0	0	Clear	Gen'l de Nansouty.
Perpignan	29.96	761.0	30.07	763.6	78.4	25.8	45	SW	5.6	2.5			0			0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.26	641.6			48.7	9.3	100	W			5					0.406	10.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.09	764.2	30.12	765.0	67.1	19.5	75	SW			1		10	SW	SW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.83	757.6	29.91	759.8	60.3	15.7	84	SSW			2		10		SW	0.205	5.2	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.88	759.0	29.91	759.8	63.5	17.5	79	SSW			3		8	SW	SW	Inap	Inap.	Sprinkling	Lt. Herecouet, Director.
Saint Maur (near Paris)	29.82	757.4	29.98	761.6	58.5	14.7	96	SW			1		10		SW	0.217	5.5		E. Renou, Director.
Tarbes, Normal School	29.08	738.5	30.11	764.9	77.9	25.5	58	W			1		0			0	0	Clear	F. Huguet, Director.
Toulouse, Observatory	29.43	747.6	30.16	766.0	73.4	23.0	65	NW			1		1			0	0		M. Julier Mercadier.
Tours	29.83	757.6	30.02	762.6	69.8	21.0	59	W			3		7		W	0.055	1.4		Cousin-Marquet.
Versailles, Observatory	29.48	748.7	29.97	761.2	58.3	14.6	89	SW			2					0.098	2.49		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.36	745.7	30.05	763.3	70.7	21.5	73	SSW			1		8		SE	0.295	7.5	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	81.3	27.4										0.08	2.		[illegible] rohésl.
Lyons Obs'y (Park Station)	29.47	748.5	30.07	763.8	71.8	22.1	60	ESE			1		5		NNW	0.306	7.78	Cloudy	Ch. André, Director.
Nice			30.00	762.0	76.6	24.8	62	ESE			5		0			0	0	Misty	[illegible], Jr.
Zi-Ka-Wei (near Shanghai)	29.69	754.0	29.71	754.7	79.9	26.6	90	S	5.2	2.8			4k			0.472	12.0	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following, Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bamberg	29.09	738.9	29.93	760.2	58.6	14.8	83	W	.....	.....	4	.....	9	W	.....	0.012	0.3	Raining	Prof. Dr. Hoh.
Berlin	29.63	752.5	29.80	756.8	64.0	17.8	60	SW	.....	.....	4	.....	9	.....	.....	0.102	2.6	.....	Prof. Dr. Arndt.
Breslau	29.33	744.9	29.85	758.3	60.6	15.9	53	WNW	.....	.....	4	.....	5	.....	.....	0.018	0.47	.....	Royal University Obs'y.
Carlsruhe	29.52	749.7	29.94	760.4	59.7	15.4	87	SW	.....	.....	3	.....	10	SW	.....	0.374	9.5	Raining	Albert Sens.
Cassel	29.21	741.8	29.81	757.1	59.7	15.4	87	S	.....	.....	3	.....	10	SW	.....	0.249	6.32	.....	Dr. H. Möhl.
Crefeld	29.59	751.6	29.75	755.7	59.5	15.3	92	SW	.....	.....	6	.....	10	.....	.....	0.04	1.	.....	Director Lose.
Emden	.....	.....	29.63	752.7	59.2	15.1	97	SW	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.54	750.2	29.90	759.4	58.6	14.8	.....	WSW	.....	.....	2	.....	9	.....	.....	0.063	1.6	.....	Physical Society.
Freienwalde on the Oder	29.74	755.3	29.78	756.3	62.6	17.0	70	WSW	.....	.....	4	.....	10ks	W	.....	0.087	2.2	.....	Dr. Assmann.
Friedrichshafen	28.60	726.4	30.01	762.3	61.2	16.2	82	WNW	.....	.....	3	.....	10	W	.....	0.114	2.9	.....	M. Wilhelm.
Hamburg	29.63	752.6	29.70	754.3	61.5	16.4	74	WSW	.....	.....	5	.....	10n	.....	.....	0.083	2.1	Raining	Captain F. Hegemann.
Kiel	29.63	752.7	29.65	753.1	64.0	17.8	61	SW	.....	.....	4	.....	10	.....	.....	0.004	0.11	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.48	748.8	29.56	750.8	61.3	16.3	67	NW	.....	.....	5	.....	4	.....	.....	0.016	0.4	.....	Prof. E Luther
Köslin	.....	.....	29.65	753.2	58.8	14.9	.....	NW	.....	.....	4	.....	3	.....	.....	0.299	7.6	.....	H. Müller.
Leipsic Observatory	29.41	747.0	29.82	757.4	67.6	19.8	47	WSW	.....	.....	4	.....	9	W	.....	0.079	2.0	Rainy	Prof. Bruhns, Privy Counsellor.
Memel	29.46	748.3	29.51	749.5	59.0	15.0	72	W	.....	.....	5	.....	10s;n	.....	.....	..	..	.....	Skalweit.
Munich (München)	28.19	715.9	30.05	763.2	59.0	15.0	72	SW	.....	.....	6	.....	10	SW	.....	0.126	3.2	Rain-squalls	Dr. C. Lang.
Neufahrwasser	29.58	751.3	29.60	751.7	63.0	17.2	63	NW	.....	.....	4	.....	10	.....	.....	0.063	1.6	.....	A. Lothes.
Posen	29.53	750.1	29.52	757.3	60.1	15.6	67	W	.....	.....	5	.....	10	.....	.....	0.016	0.4	.....	Dr. Magener.
Strassburg (in Alsace)	29.45	748.0	29.99	761.8	63.1	17.3	85	SSE	.....	.....	2	.....	10	WSW	.....	0.078	1.99	Raining	Imp. University Observatory.
Stuttgart	29.02	737.2	29.95	760.7	61.2	16.2	78	W	.....	.....	1	.....	10	.....	.....	0.193	4.9	Raining	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.47	723.0	29.96	761.0	56.1	13.4	86	W	7	3	.....	.....	10	.....	W	0.118	3.0	Light fog	T. Hopfner.
Wustrow	29.69	754.1	29.71	754.7	63.0	17.2	67	WSW	.....	.....	4	.....	8s	.....	.....	0.059	1.5	.....	E. Schmitz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 metres, or 1,376.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 30, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.46	748.2	29.83	757.7	85.3	29.6	.....	NE	.....	.....	4.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.2	29.47	748.5	84.7	29.3	71	NW	.....	.....	.....	.....	8	NE	NW	0	0	D. clouds.....
Deesa	29.05	737.8	29.51	749.5	88.2	31.2	65	SSW	20.7	9.2	.....	.....	6	ESE	.....	0	0	D. clouds.....
Bombay	29.64	752.9	29.68	753.9	83.2	28.4	83	W	16.0	7.2	.....	.....	8	.....	W	0.02	0.5	D. clouds.....
Poona	27.83	706.9	29.68	753.9	77.6	25.4	70	WSW	.....	.....	.....	.....	2	.....	WSW	0	0	D. clouds.....
Lahore	28.57	725.7	29.26	743.3	105.6	41.0	38	NE	1.7	0.8	.....	.....	3	.....	.....	0	0	Blue sky.....
Belgaum	27.21	691.0	29.76	756.0	70.1	21.2	91	W	15.0	6.7	.....	.....	10	E	W	0.35	8.9	Showery.....
Roorkee	28.50	723.8	29.36	745.9	88.4	31.3	82	SE	3.3	1.5	.....	.....	4	.....	.....	0.60	15.2	.....
Agra	28.84	732.4	29.38	746.2	92.6	33.7	71	Calm	.....	.....	.....	.....	9	.....	.....	0	0	.....
Nagpur	28.52	724.4	29.56	750.9	76.4	24.7	91	NW	6.7	3.0	.....	.....	10	.....	.....	0.14	3.6	Overcast.....
Lucknow	29.04	737.6	29.41	746.9	89.2	31.8	82	Calm	2.0	0.9	.....	.....	10	.....	.....	0.02	0.5	Overcast.....
Allahabad	29.12	739.7	29.43	747.5	84.5	29.2	89	ESE	1.4	0.6	.....	.....	10	.....	E	0	0	Thunder-storm..
Patna	29.24	742.8	29.42	747.3	87.4	30.8	79	SSE	1.0	0.4	.....	.....	8	ESE	ESE	0.31	7.9	D. clouds .....
Hazaribagh	27.47	697.6	29.45	748.0	79.6	26.4	87	Calm	5.3	2.4	.....	.....	10	.....	.....	0.13	3.3	Drizzling.....
Cuttack	29.40	746.8	29.48	748.9	83.0	28.3	83	SSW	3.0	1.3	.....	.....	7	.....	.....	1.46	37.1	D. clouds.....
Calcutta (Alipore)	29.46	748.3	29.48	748.8	84.8	29.1	83	S	6.0	2.7	.....	.....	9	W	.....	0	0	D. clouds.....
Goalpara	29.11	739.4	29.50	749.2	78.4	25.8	95	Calm	2.3	1.0	.....	.....	10	.....	.....	1.04	26.4	Raining.....
Chittagong	29.61	749.6	29.61	752.0	83.4	28.6	89	S	6.7	3.0	.....	.....	10	.....	.....	0	0	Misty.....
Sibsagar	29.18	741.2	29.51	749.6	83.2	28.4	86	ESE	1.5	0.7	.....	.....	10	W	W	0.10	2.5	D. clouds.....
Jubbulpore	28.14	714.8	29.50	749.3	77.3	25.2	89	NW	8.8	3.9	.....	.....	10	.....	N	0.92	23.4	Overcast.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,561 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Upper	Low'r	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.60	751.7	29.99	761.7	72.6	22.5	49	SE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.45	748.0	29.95	760.7	79.7	26.5	30	SE	.....	.....	2	.....	4	NNW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.87	758.8	29.98	761.5	73.0	22.8	51	E	8.7	3.9	.....	.....	6	NNW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.9	29.92	759.9	77.2	25.1	26	NNW	1.3	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.3	30.00	762.0	73 0	22.8	56	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.07	713.0	29.91	759.6	75.9	24.4	31	NNW	.....	.....	4	.....	0?	NNW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.91	759.8	29.96	760.9	76.8	24.9	50	E	10.5	4.7	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.73	755.1	29.98	761.4	79.5	26.8	27	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.89	759.2	29.97	761.3	73.6	23.1	64	W	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.4	29.99	761.7	80.8	27.1	38	W	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.7	29.96	760.9	75.6	24.2	38	NNW	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.07	738.3	29.91	759.6	83.8	28.8	61	NW	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	756.9	29.98	761.6	80.1	26.7	61	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	29.99	761.8	74.7	23.7	47	ENE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.6	29.94	760.4	82.8	28.2	32	NE	7.4	3.3	.....	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.7	30.03	762.8	77.5	25.3	58	WSW	10.5	4.7	.....	.....	2	W	.....	0	0	.....	Prof. [illegible] Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.88	758.9	77.1	25.1	87	SW	5.8	2.6	.....	.....	4ks;ck	.....	SW	0.047	1.19	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.71	754.6	29.90	759.4	79.0	26.1	84	S	16.7	7.5	.....	.....	8s	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory.	29.66	753.3	29.72	754.9	80.6	27.0	68	SW	11.2	5.0	.....	.....	9ck;s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.82	757.4	29.87	758.7	79.7	26.5	81	SSW	13.4	6.0	.....	.....	9s	.....	SSW	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.08	636.9	30.08	764.1	58.1	14.5	72	SE	.....	.....	2	.....	10	.....	SE	0.05	1.2	Covered	Prof. L. Perez.
Leon	24.45	621.0	30.08	763.9	64.0	17.8	84	E	.....	.....	3	.....	10kn	.....	E	0.33	8.5	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.7	30.04	763.1	58.3	14.6	84	Calm	0	0	.....	.....	10k	.....	.....	0.02	0.6	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.7	17.6	85	Calm	.....	.....	0	0	10kn	.....	SE	0.12	3.0	Covered	M. V. de Leon, M. E
Tlacotalpam	29.98	761.6	30.00	761.9	78.8	26.0	85	NW	.....	.....	2	3	1	W	NW	0	0	Fair	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.20	767.0	57.0	13.9	50	SE	.....	.....	2	.....	10	.....	SE	0.40	10.1	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.61	574.2	30.20	767.0	57.4	14.1	87	E	.....	.....	1	.....	10n	.....	SE	0	0	Covered	J. O. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	52.0	11.1	83	SE	2.7	1.2	.....	9ck	0	NE	.....	0.03	0.7	Very cloudy	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.59	751.6	29.88	758.9	77.0	25.0	87	SE	.....	.....	1	8	0	.....	.....	1.10	28.0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.5 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.75	755.6	29.75	755.6	61.2	16.2	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.126	3.2	.....	
Groningen	.....	.....	.....	.....	58.8	14.9	.....	SW	.....	.....	2	.....	.....	.....	.....	0.165	4.2	.....	
Helder	29.62	752.3	29.62	752.3	59.4	15.2	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.157	4.0	.....	
Hellevoetsluis	29.71	754.7	29.71	754.7	59.2	15.1	91	WSW	.....	.....	5	.....	.....	.....	.....	0.071	1.8	.....	
Utrecht	29.66	753.4	29.71	754.6	59.4	15.2	96	WSW	.....	.....	4	.....	10	.....	.....	0.087	2.2	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.44	747.7	29.49	749.1	62.6	17 0	64	SSW	4.3	1.9	.....	.....	3	.....	.....	0.178	4.4	.....	
Brönö	29.55	750.5	29.59	751.5	64.4	18 0	47	SSE	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.37	746.0	29.51	749.6	64.0	17.8	51	ENE	7	3	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.64	752.8	29.68	753.9	57.9	14.4	51	NE	9	4	.....	.....	8	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.18	766.5	30.36	771.2	73.2	22.9	81	S	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.02	762.5	68.7	31.5	25	SSW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	72.9	22.7	64	SW	9.8	4.4	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.9	30.11	764.7	75.2	24.0	54	NNW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.30	769.6	30.37	771.4	74.8	23.8	78	SW	5.6	2.5	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	...	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 16', E. 8° 30'	.....	...	30.11	764.8	73.8	23.2	.....	SSW	.....	.....	3	.....	4	.....	SSW	2	SSW	Blue sky	H. C. e Athayde.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.07	763.8	62.6	17.0	.....	NNW	.....	.....	3	.....	6	.....	NNW	1	NNW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island	.....	.....	30.10	764.6	77.0	25.0	...	NE	.....	.....	3	.....	5	.....	NE	1	.....	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	...	.....	.....	...	...	...	...	...	.....	.....	.....	.....	.....	.....	.....		
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.78	756.5	86.0	30.0	.....	S	.....	.....	2	.....	8	.....	S	2	S	Raining. 8 hr's rain-fall.]	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.26	743.3	29.68	753.8	59.9	15.5	66	W	22	10	.....	.....	10ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.80	731.5	29.20	741.7	59.9	15.5	78	NW	9	4	.....	.....	10	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.19	741.3	29.42	747.3	56.5	13.6	85	NE	9	4	.....	.....	10n	.....	.....	.....	Light rain	Prof. Dr. Weihrauch.
St. Petersburg	29.44	747.8	29.46	748.2	49.3	9.6	82	NE	18	8	.....	.....	10n	.....	.....	.....	Raining	Central Physical Obs.
Kieff	28.94	735.0	29.54	750.4	65.5	18.6	52	WSW	13	6	.....	.....	8kicks	.....	.....	.....	Solar corona	Physical Cabinet.
Nikolaiev	29.74	755.4	29.81	757.2	74.3	23.5	41	WSW	13	6	.....	.....	4k	.....	.....	.....	.....	Kurdakof.
Kertch	29.86	758.5	29.88	759.0	70.2	21.2	70	NW	4	2	.....	.....	3	.....	.....	.....	.....	Lagorio.
Moscow	28.78	730.9	29.30	744.1	66.0	18.9	54	S	27	12	.....	.....	8ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.7	29.63	752.7	79.3	26.3	37	WSW	31	14	.....	.....	4	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.74	755.4	29.76	755.9	48.0	8.9	88	NW	9	4	.....	.....	10	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.33	719.5	29.63	752.6	94.5	34.7	35	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.88	759.0	29.80	756.9	80.9	30.5	40	SE	11	5	.....	.....	0	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.27	743.5	29.71	754.5	90.1	32.3	31	S	22	10	.....	.....	1	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.37	745.9	29.61	752.2	87.1	30.6	41	S	4	2	.....	.....	3	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.79	731.3	29.69	754.1	81.7	27.6	42	SW	18	8	.....	.....	10mck	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.53	750.0	29.75	755.6	88.0	31.1	26	Calm	0	0	.....	.....	0	.....	.....	.....	.....	
Tashkend	28.08	713.1	29.50	749.3	95.0	35.0	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.42	747.3	29.90	759.5	65.3	18.5	56	WNW	13	6	.....	.....	3	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.39	746.6	29.67	753.6	78.8	26.0	69	NW	13	6	.....	.....	10	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.65	753.1	29.79	756.7	74.3	23.5	79	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	76.1	24.5	66	SSW	5.4	2.42	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	82.4	28.0	52	NW	2.4	1.05	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.7	.....	.....	82.4	28.0	36	N	5.2	2.32	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.86	707.6	29.93	760.1	92.5	33.6	33	SW	6.0	2.67	.....	0	2	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.93	760.2	30.07	763.8	89.4	31.9	41	SSE	2.5	1.11	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.05	763.2	74.5	23.6	62	NE	8.1	3.6	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.02	762.4	30.08	764.0	81.8	27.7	74	E	2.9	1.3	.....	9cpjcs	1k	Calm	.....	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.84	758.1	84.6	29.2	72	S	4.5	2.0	.....	.....	10n	.....	W	0.236	6.0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.6	30.08	764.0	85.5	29.7	45	ESE	14.0	6.3	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.02	762.4	30.11	764.7	84.9	29.4	64	SE	7.4	3.33	.....	2ck	2kn	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Haparanda	29.75	755.6	29.79	756.6	61.5	16.4	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.70	754.3	29.75	755.6	55.4	13.0	57	ENE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	29.62	752.3	29.67	753.6	56.8	13.8	78	NE	.....	.....	6	.....	2	.....	.....	0.016	0.4	.....	
Stockholm	29.32	744.7	29.50	749.2	62.2	16.8	70	E	.....	.....	4	.....	7	.....	.....	0.543	13.8	.....	
Wisby	29.37	746.1	29.45	747.6	60.8	16.0	79	WNW	.....	.....	4	.....	5	.....	.....	0.035	0.9	.....	
Sub-Series.																			
Upsala	29.42	747.8	29.51	749.5	58.6	14.8	93	E	9.2	4.1	.....	.....	10	SSE	E	0.020	0.49	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.4	30.06	763.5	69.1	20.6	59	S	.....	.....	2	.....	9	.....	.....	0.047	1.2	Covered.....	The Observatory.
Zurich	28.43	722.0	30.08	763.9	61.9	16.6	84	W	.....	.....	1	.....	10	.....	.....	0.118	3.0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +1.0 mm.; Thermometer, -1.7 Cent.; Relative Humidity, +6 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.90	759.4	72.5	22.5	49	N	19	8.5	.....	.....	4	.....	E	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.04	763.1	77.4	25.2	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.76	755.9	90.5	32.5	59	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.12	765.0	30.18	766.6	58	14.4	79	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	G. A. Bain.
Charlottetown, P. E. Island	30.16	766.1	30.20	767.1	59	15.0	65	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760.5	63.8	17.7	92	NE	.....	.....	1	.....	10n	.....	.....	0.104	2.64	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.16	766.1	57.9	14.4	73	E	.....	.....	1	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.07	763.8	30.09	764.3	52	11.1	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	30.14	765.5	30.20	767.1	61.2	16.2	76	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry, Manitoba	28.69	728.7	29.48	748.8	63	17.2	86	W	10	4.5	.....	2ck	2ks	W	W	0.090	2.29	Fair.....	James Stewart.
Granton, Ontario	28.80	731.5	29.55	750.2	71	21.7	85	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	30.11	764.8	30.22	767.6	59	15.0	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.55	750.6	29.90	759.4	72.3	22.4	86	NE	.....	.....	1	10cs	0	NE	.....	0.08	0.8	Cloudy.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753.1	29.97	761.2	68	20.0	79	SE	6	2.7	.....	.....	10n	.....	Calm	0.05	1.3	Light rain...	S. Woods, M. A.
Little Glace Bay, N. S	30.16	766.1	30.20	767.1	55.0	12.8	74	NW	4	1.8	.....	3k	0	NW	.....	0	0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.81	757.2	30.00	762.0	64	17.8	89	SW	8	3.6	.....	.....	10n	.....	.....	0.03	0.8	Light rain...	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.14	740.1	29.79	756.7	72	22.2	76	S	11	4.9	.....	5ck	2ks	SW	SW	0.05	1.3	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.18	741.1	29.90	759.4	65.9	18.9	92	Calm	.....	.....	0	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.91	759.7	66	18.9	100	S	10	4.5	.....	5k	5n	SW	SW	0.08	2.0	Cloudy.....	H. Morgan.
Port Hastings, N. S	30.13	765.3	30.18	766.6	54	12.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.26	743.7	29.90	759.4	70	21.7	94	SW	4	1.8	.....	.....	10ks	.....	W	0.04	1.0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.78	756.4	30.09	764.3	61	16.1	74	NE	.....	.....	1	8k	0	NE	.....	0	0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.41	747.0	29.86	758.2	65	18.3	87	E	8	3.6	.....	.....	10ks	.....	SW	0.14	3.6	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.13	765.3	30.18	766.6	57	13.9	75	SE	.....	.....	1	2k	0	NE	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	30.05	763.3	30.21	767.3	59	15.0	70	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.78	756.4	70	21.1	84	S	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.07	738.4	29.82	757.4	68	20.0	84	SE	5	2.2	.....	.....	10ks	.....	NW	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.61	726.7	29.82	757.4	69.6	20.9	89	SW	10	4.5	.....	.....	8s	.....	.....	0.089	2.26	Cloudy.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.17	766.3	30.21	767.3	56	13.3	65	N	5	2.2	.....	2k	0	.....	.....	0	0	Clear.....	T. C. Hill,
*Toronto, Ontario	29.51	749.5	29.88	758.9	67	19.4	88	S	7	3.1	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	Magnetic Observatory
Windsor, N. S	30.18	766.6	30.27	768.8	65.0	18.3	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Woodstock	28.84	732.5	29.80	756.4	72.4	22.4	81	SW	8	3.6	.....	.....	10ks	W	.....	1.03	26.2	Cloudy.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	30.04	763.0	30.29	769.4	52	11.1	72	NE	.....	.....	.....	.....	10	.....	.....	0	0	Fair?.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.88	758.9	30.11	764.8	64	17.8	68	S	10	4.5	.....	2cs	8s	Calm	SW	Inap	Inap.	Fair	
Alpena, Michigan	29.14	740.1	29.75	755.6	69	20.6	80	S	4	1.8	.....	2c	0	Calm	.....	0.02	0.5	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	47	8.3	100	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.60	736.6	30.10	764.5	73	22.8	85	E	11	4.9	.....	.....	10s	.....	Calm	0	0	Cl u y	
Atlantic City, New Jersey	30.22	767.6	30.23	767.8	65	18.3	84	SE	5	2.2	.....	8c	2s	NW	Calm	0	0	Cloudy	
Augusta, Georgia	29.97	761.2	30.16	766.1	76	24.4	86	SE	3	1.3	.....	.....	10s	.....	N	0.80	20.3	Cloudy	
Baltimore, Maryland	30.18	766.6	30.23	767.8	69	20.6	65	SW	6	2.7	.....	2c	2s	SW	SW	0	0	Fair	
Barnegat, New Jersey	30.20	767.1	30.22	767.6	67	19.4	74	S	10	4.5	.....	10ck;k	Haze	W	Calm	0	0	Cloudy	
Bismarck, Dakota	28.00	711.2	29.86	758.4	61	16.1	60	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.58	725.9	29.84	757.9	77	25.0	65	S	8	3.6	.....	0	8ks	.....	S	0	0	Cloudy	
Boise City, Idaho	27.08	687.8	30.04	763.0	54	12.2	61	SE	2	0.9	.....	5cs;k	0	W	.....	0	0	Fair	
Boston, Massachusetts	30.04	763.0	30.20	767.1	61	16.1	71	SW	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Brackettville, Texas	28.83	732.3	29.81	757.2	79	26.1	78	SE	3	1.3	.....	0	5s	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.65	727.7	29.58	751.3	71	21.7	75	SW	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Brownsville, Texas	29.94	760.5	29.98	761.5	84	28.9	71	SE	8	3.6	.....	2k	0	Calm	.....	0		Clear	
Buffalo, New York	29.23	742.4	29.90	759.4	72	22.2	71	SW	12	5.4	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	51	SW	.....	.....	1	0	5ks	.....	S	0	0	Fair	
Burlington, Vermont	29.77	756.1	30.05	763.3	65	18.3	73	S	16	6.7	.....	.....	10s	.....	SW	0.06	1.5	Cloudy	
Cairo, Illinois	29.64	752.8	30.01	762.2	82	27.8	75	S	4	1.8	.....	1c	Haze	Calm	.....	0	0	Clear	
Campo, California	27.35	694.7	29.92	760.0	48	8.9	85	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	74	23.3	63	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.19	766.8	30.21	767.3	69	20.6	85	SE	6	2.7	.....	8cs	Haze	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.16	766.1	30.18	766.6	74	23.3	72	NE	16	7.2	.....	5cs	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.19	766.8	30.22	767.6	67	19.4	79	S	6	2.7	.....	5c	0	N	.....	0	0	Fair	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	30.09	764.3	30.15	765.8	80	26.7	78	E	8	3.6	.....	8k	0	E	.....	0	0	Cloudy	
Charlotte, North Carolina	29.35	745.5	30.14	765.5	69	20.6	90	SE	5	2.2	.....	.....	10s	.....	E	0.16	4.1	Cloudy	
Chattanooga, Tennessee	29.34	745.2	30.10	764.5	80	26.7	70	SW	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	62	16.7	14	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.18	741.1	29.84	757.9	67	19.4	89	NE	3	1.3	.....	.....	10n	.....	Calm	2.86	72.6	Light rain	
Cincinnati, Ohio	29.36	745.7	29.93	761.5	78	25.6	67	SE	2	0.9	.....	5ck	0	NW	.....	0	0	Fair	
Cleveland, Ohio	29.22	742.2	29.91	759.7	76	24.4	60	SE	12	5.4	.....	2ck	8ks	W	W	0	0	Cloudy	
Coleman City, Texas	28 18	715.8	29.76	755.9	79	26.1	62	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.16	740.7	29.95	760.7	77	25.0	69	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Concho, Texas	28.05	712.5	29.64	752.8	76	24.4	69	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.55	750.6	30.00	762.0	73	22.8	90	S	5	2.2	.....	0	5s	.....	S	0	0	Fair	
Davenport, Iowa	29.20	741.7	29.81	757.2	69	20 6	85	E	16	7.2	.....	.....	10s	.....	SW	0.14	3.6	Cloudy	
Deadwood, Dakota	25.40	645.2	.....	.....	56	13.3	63	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.80	731.5	29.91	759.7	78	25.6	65	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.20	741.7	29.95	760.7	77	25.0	86	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.77	629.2	29.99	761.7	65	18.3	40	S	4	1.8	.....	2ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	28.86	733.0	29.66	753.4	81	27.2	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.22	742.2	29.85	758.2	72	22.2	80	SW	6	2.7	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Dodge City, Kansas	27.25	692.1	29.37	746.0	79	26.1	51	SW	20	8.9	.....	2c	0	S	.....	0	0	Fair	
Dubuque, Iowa	29.17	740.9	29.84	757.9	66	18.9	95	SE	5	2.2	.....	.....	10n	.....	Calm	2.87	72.9	Heavy rain	
Duluth, Minnesota	29.00	736.6	29.65	753.1	62	16.7	94	SE	9	4.0	.....	.....	10s	.....	S	0.28	7.1	Cloudy	
Eagle Pass, Texa	29.18	741.1	29.87	758.7	81	27.2	70	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.12	765.0	30.19	766.8	58	14.4	64	S	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	84	28.9	75	S	.....	.....	4	5k	2s	S	S	0	0	Fair	
El Paso, Texas	26.12	663.4	.....	.....	70	21.1	75	E	2	0.9	.....	1ck	0	W	.....	0.27	6.9	Clear	
Erie, Pennsylvania	29.28	743.7	29.97	761.2	68	20.0	90	SW	12	5.4	.....	.....	10n	.....	W	0.12	3.0	Heavy rain	
Escanaba, Michigan	29.12	739.6	29.74	755.4	68	20.0	84	S	9	4.0	.....	.....	10c	.....	S	0.20	5.1	Cloudy	
Florence, Arizona	28.30	718.8	29.90	759.4	78	25.6	29	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.81	706.1	.....	.....	57	13.9	68	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	71	21.7	66	SW	4	1.8	.....	0	0	.....	.....	0	0	Cl ar	
Fort Gibson, Indian Ter	29.42	747.3	29.92	760.0	83	28.3	64	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	68	20.0	74	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.76	730.5	29.96	761.0	79	26.1	65	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.37	695.2	.....	.....	61	16.1	66	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.74	704.6	29.57	751.1	73	22.8	72	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.76	755.9	77	25.0	77	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.96	710.2	.....	.....	60	15.6	59	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	31	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.26	717.8	29.73	755.1	79	26.1	62	S	4	1.8	.....	5k	0	S	.....	0	0	Fair	
Galveston, Texas	30.01	762.2	30.06	763.5	83	28.3	75	S	8	3.6	.....	0	5ks	.....	S	0	0	Fair	
Graham, Texas	28.88	733.5	29.88	758.9	79	26.1	74	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.17	740.9	29.79	756.7	68	20.0	90	SE	4	1.8	.....	.....	10s	.....	Calm	1.44	36.6	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.99	761.7	29.88	758.9	78	25.6	78	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.17	740.9	29.90	759.4	80	26.7	70	SW	9	4.0	.....	5cs	2s	W	Calm	0	0	Fair	
Indianola, Texas	30.02	762.5	30.04	763.0	84	28.9	79	S	9	4.0	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.83	732.3	29.90	759.4	80	26.7	70	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.11	764.8	30.14	765.5	82	27.8	75	E	4	1.8	.....	2k	0	E	.....	0	0	Fair	
Keokuk, Iowa	29.15	740.4	29.71	754.6	85	29.4	64	SW	16	7.2	.....	4c	1s	Calm	SW	0	0	Fair	
Key West, Florida	30.06	763.5	30.09	764.3	84	28.9	75	E	8	3.6	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.19	766.8	30.21	767.3	70	21.1	77	E	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.14	740.1	30.10	764.5	76	24.4	73	NE	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.07	738.4	29.76	755.6	66	18.9	89	S	10	4.5	.....	.....	10n	.....	Calm	4.70	119.4	Light rain	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	66	18.9	69	Calm	0	0	.....	2ck	0	NW	.....	0.25	6.3	Clear	
Laredo, Texas	29.53	750.0	29.85	758.2	85	29.4	47	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.98	736.1	29.76	755.9	78	25.6	76	S	14	6.3	.....	.....	8s	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.70	754.4	30.04	763 0	80	26.7	74	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.53	750.0	29.87	758.7	55.5	13.1	81	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.45	748.0	29.98	761.5	80	26.7	66	S	4	1.8	.....	2cs	Sm'c	Calm	Calm	0	0	Clear	
Lynchburg, Virginia	29.53	750.0	30.19	766.8	73	22.8	59	S	2	0.9	.....	0	8s	.....	SW	0	0	Fair	
Madison, Wisconsin	28.89	733.8	29.82	757.4	68	20.0	90	S	6	2.7	.....	.....	10n	.....	Calm	3.70	94.0	Light rain	
Marquette, Michigan	29.00	736.6	29.66	753.4	65	18.3	73	S	4	1.8	.....	0	0	.....	.....	0.33	8.4	Clear	
Mason, Texas	28.35	720.1	30.02	762.5	79	26 1	65	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.70	754.4	30.02	762.5	84	28.9	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.16	740.7	29.85	758.2	66	18.	95	NW	12	5.4	.....	.....	10n	.....	NW	1.76	44.7	Light rain	
Mobile, Alabama	30.07	763.8	30.11	764.8	79	26.1	76	W	6	2.7	.....	0	0	.....	.....	0.13	3.3	Clear	
Montgomery, Alabama	29.89	759.2	30.11	764.8	81	27.2	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level Inches.	BAROMETER. Reduced to sea-level Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Morgantown, West Virginia	29.07	738.4	30.01	762.2	75	23.9	64	SW	3	1.3	.....	5ck	5ks	Calm	Calm	0	0	Cloudy	
Mt. Washington, N. H.	24.00	609.6	30.36	771.1	47	8.3	100	W	9	4.0	.....	.....	Fog	.....	W	0.07	1.8	Foggy	
Nashville, Tennessee	29.52	749.8	30.03	762.7	79	26.1	74	Calm	0	0	.....	2cs	Haze	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.10	764.8	30.21	767.3	70	21.1	70	SW	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
New London, Connecticut	30.18	766.6	30.22	767.6	65	18.3	73	S	13	5.8	.....	8ck	k 0	W; NW	.....	0	0	Cloudy	
New Orleans, Louisiana	30.04	763.0	30.10	764.5	82	27.8	71	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.10	766.6	30.24	768.1	64	17.8	63	S	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
New York, New York	30.04	763.0	30.22	767.6	63	17.2	83	SW	7	3.1	....	.....	10s	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.17	766.3	30.22	767.6	71	21.7	66	SE	1	0.4	.. ....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	26.87	682.5	29.29	744.0	67	19.4	92	E	1	0.4	.....	5k	8s	Calm	Calm	Inap	Inap.	Cloudy	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	44.6	6.9	100	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.58	725.9	29.58	751.3	85	29.4	61	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.86	758.4	29.96	761.0	72	22.2	67	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.67	728.2	29.45	748.0	63	17.2	78	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	30.17	766.3	30.22	767.6	66	18.9	69	SW	14	6.3	.....	5 cs	Haze	Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.56	725.4	30.23	767.8	82	27.8	34	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.04	458.2	30.25	768.3	40	4.4	48	NW	3	1.3	.....	2k	0	NW	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	59	15 (	9	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.24	742.7	30.00	762.0	72	22.2	71	SW	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.19	741.4	29.82	757.4	72	22.2	80	SW	16	7.2	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
Portland, Maine	30.11	764.8	30.16	766.1	63	17.2	72	S	4	1.8	.....	5k	0	Calm	.....	0.02	0.5	Fair	
Portland, Oregon	29.96	761.0	30.04	763.0	62.6	11.1	90	N	2	0.9	.....	0	8s	.....	N	0	0	Cloudy	
Prescott, Arizona	24.78	629.1	30.09	764.3	63.0	17.2	42	Calm	.....	.....	0	5ck	0	SW	.....	0	0	Fair	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	82	27.8	75	E	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Red Bluff, California	29.48	748.8	29.83	757.7	62	16.7	56	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	82	27.8	75	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.84	745.2	29.93	760.2	72	22.2	67	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.42	747.3	29.99	761.7	60.5	10.3	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.9	29.84	757.9	53	11.7	86	SW	12	5.4	.....	0	8s	.....	S	0	0	Fair	
St. Louis, Missouri	29.36	745.7	29.90	759.4	79	26.1	74	S	12	5.4	.....	2cs	8s	Calm	Calm	0	0	Fair	
St. Marks, Florida	30.10	764.8	30.12	765.0	75	25.6	91	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.88	733.3	29.60	751.8	71	21.7	88	SE	25	11.2	.....	.....	10s	.....	SE	0.74	18.8	Cloudy	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	62	16.7	27	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.33	745.0	29.88	758.9	80	26.7	74	SE	4	1.8	.....	8cs	0	SE	.....	0	0	Cloudy	
San Diego, California	29.82	757.4	29.89	759.2	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.27	743.4	29.90	759.4	76	24.4	64	SW	10	4.5	.....	5c	2s	NE	Calm	0	0	Fair	
Sandy Hook, New Jersey	30.19	766.8	30.22	767.6	65	18.3	78	SW	6	2.7	.....	5cs	8s	Calm	Calm	0	0	Cloudy	
San Francisco, California	29.84	757.9	29.90	759.4	53	11.7	86	SW	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	62	16.7	57	Calm	0	0	.....	8k	0	Calm	.....	Inap	Inap.	Fair	
Savannah, Georgia	30.07	763.8	30.16	766.1	81	27.2	78	E	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.85	758.2	30.06	763.5	78	25.6	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	73	22.8	85	NE	4	1.8	.....	8cs	0	N	.....	0.82	20.8	Cloudy	
Socorro, New Mexico	26.39	644.9	29.45	748.0	73	22.8	59	S	5	2.2	.....	5ck	5s	S	Calm	0	0	Cloudy	
Springfield, Ill	29.23	742.4	29.89	759.2	81	27.2	70	SW	12	5.4	.....	5cs	2s	SW	SW	0.08	2.0	Clear	
Springfield, Massachusetts	30.04	763 0	30.16	766.1	66	18.9	74	S	9	4.0	.....	0	8s	.....	W	0	0	Cloudy	
Stockton, Texas	26.92	683.8	29.92	760.0	75	23.9	4	SE	12	5.4	.. ....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.15	765.8	30.21	767.3	59	15.0	94	SW	16	7.2	.....	0	5s	.....	SW	0	0	Fair	
Toledo, Ohio	29.25	742.9	29.88	759.2	76	24.4	69	SW	8	3.6	.....	5cs	5s	W	.....	0	0	Threatening	
Tucson, Arizona	27.41	696.2	29.96	761.0	79	26.1	46	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear	
Umatilla, Oregon	29.63	752.6	30.12	765.0	50.0	10.0	72	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.05	737.9	29.88	767.5	81	27.2	70	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Vicksburg, Mississippi	29.85	758.2	30.10	764.5	79	26.1	78	SW	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.29	617.0	29.77	756.1	48	8.9	43	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.46	748.3	29.82	757.4	56.6	13.6	60	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.09	764.3	30.20	767.1	70.6	21.4	48	SW	7	3.1	.....	5cc	Haze	W	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	71	21.7	49	S	.....	.....	1	5k	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	71	21.7	75	NE	4	1.8	.....	5s	Haze	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.54	648.7	29.90	759.4	53	11.7	31	E	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	30.20	767.1	30.24	768.1	61	16.1	66	S	14	6.3	.....	.....	10ks	.....	SW	0	0	Threatening	
Yankton, Dakota	28.41	721.6	29.60	751.8	73	22.8	85	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.54	750.3	29.70	754.4	71	21.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	64.2	17.9	87	Calm	.....	.....	0	.....	10n	.....	.....	1.13	28.7	.....	Thomas Herran.
Navassa, W. I.	29.92	760.0	30.00	762.0	81	27.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.06	763.5	30.06	763.5	81	27.2	74	E	.....	.....	2	0	0	.....	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,169 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.84 in., or 160.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 116.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡	.....	.....	83	28.3	87	WSW	3	1.3	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.76‡	755.9‡	.....	.....	80	26.7	74	SW	.....	.....	5	.....	9ks;k	.....	wsw	0	0	.....	.....	Cloudy	
Adams. Pichilinque Bay, L. C., Mex.	29.80‡	756.9‡	.....	.....	75	23.9	90	SE	.....	....	1	.....	8	.....	SE	.....	.....	Smooth	.....	Fair	
Alliance. Southampton, Eng	29.77‡	756.1‡	.....	.....	61	16.1	88	SW	.....	.....	4–5	.....	10	.....	W	.....	.....	.....	.....	Overcast	
Ashuelot, Yokohama, Japan	29.73‡	755.1‡	.....	.....	80	26.7	74	SW	.....	.....	6	.....	2	.....	wsw	.....	.....	Mod'ate	SW	Cloudy	
Colorado New York, N. Y.	30.16‡	766.1‡	.....	.....	65	18.3	78	SSW	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Constitution, League Isl. Navy Yard, Pa.	30.21‡	767.3‡	.....	.....	66	18.9	84	SW	.....	.....	3	.....	8	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Copenhagen, Denmark	29.61‡	752.1‡	.....	.....	59	15.0	82	WNW	.....	.....	3–4	.....	7	.....	W	.....	.....	.....	.....	Cloudy	
Franklin. Norfolk, Va.	30.22‡	767.6‡	.....	.....	68	20.0	74	SE	2.4	1.1	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Hartford Montevideo, Uruguay	29.90‡	759.4‡	.....	.....	54	12.2	93	SW	4	1.8	.....	.....	10	.....	SW	0.05	1.3	.....	.....	Cloudy	
Independence, Mar. I'd. Navy Yard, Cal.	29.92‡	760.0‡	.....	.....	60	15.6	88	WSW	6	2.7	.....	.....	6	.....	SW	.....	.....	.....	.....	Cloudy?	
Kearsarge, N. 39° 40′ W. 63° 30′	30.19‡	766.8‡	.....	.....	63	17.2	67	NE	.....	.....	6	.....	8	.....	NE	.....	.....	Mod'ate	NE	Fair	
Michigan, Erie, Pa.	29.90‡	759.4‡	.....	.....	70	21.1	90	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Monocacy. Shanghai, China	29.70‡	754.4‡	.....	.....	82	27.8	100	SE	.....	.....	1	.....	5	.....	SE	.....	.....	.....	.....	Fair	
Monongahela, Yokohama, Japan	29.75‡	755.6‡	.....	.....	82	27.8	87	WSW	.....	.....	5	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.18‡	766.6‡	.....	.....	82	27.8	86	Calm	0	0	.....	.....	5	.....	Calm	0.05	1.3	.....	.....	Fair	
Onward, Callao, Peru.†	30.25‡	768.3‡	.....	.....	63	17.2	89	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.71‡	754.6‡	.....	.....	80	26.7	91	S	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	71	21.7	95	SW	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.05‡	763.3‡	.....	.....	63	17.2	89	ESE	4	1.8	.....	.....	8	.....	.....	0	0	Smooth	SW	Cloudy	
Portsmouth, Newport, Rhode Island.	30.31‡	769.9‡	.....	.....	61	16.1	61	S	.....	.....	4	.....	10	.....	Calm	0	0	Smooth	.....	Cloudy	
Powhatan, N. 41° 16′, W. 71° 36′	30.21‡	767.3‡	.....	.....	61	16.1	82	SE	.....	.....	3	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Quinnebaug, Constantinople, Turkey	29.89‡	759.2‡	.....	.....	74	23.3	59	NE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Ranger, N. 23° 44′, E. 117° 58′	29.76‡	755.6‡	.....	.....	82	27.8	87	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	Calm	Clear	
Richmond, Yokohama, Japan	29.76‡	755.9‡	.....	.....	81	27.2	74	WSW	.....	.....	5	.....	10	.....	wsw	0	0	Smooth	wsw	Cloudy	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡	.....	.....	81	27.2	96	SE	.....	.....	1	.....	2	.....	S	0.03	0.8	.....	.....	Fair	
Santee. Annapolis, Md	30.20‡	767.1‡	.....	.....	70	21.1	75	SW	.....	.....	2	.....	5?	.....	SW	0	0	.....	.....	Clear?	
Saratoga. N. 38° 41,′ W. 72° 40′	30.29‡	769.4‡	.....	.....	66	18.9	94	ESE	.....	.....	1	.....	5	.....	Calm	0	0	Mod'ate	NE	D. clouds	
St. Louis, League Island, Pa	30.18‡	766.6‡	.....	.....	67	19.4	74	SW	15	6.7	.....	.....	8	.....	NW	0	0	.....	.....	Fair	
Trenton, Antwerp, Belgium	29.77‡	756.1‡	.....	.....	63	17.2	89	WSW	.....	.....	2–3	.....	10	.....	Calm	0.01	0.3	.....	.....	Drizzling	
Tuscarora, Mare Island Navy Yard, Cal	29.91‡	759.7‡	.....	.....	57	13.9	94	SSW	.....	.....	3	.....	10	.....	Calm	0	0	Smooth	.....	Overcast	
Vandalia, Huntington, Long Isl., N. Y.	30.22‡	767.6‡	.....	.....	65	18.3	84	SW	.....	.....	2	.....	8	.....	S	Blank	Blank	Smooth	.....	Cloudy	
Wabash, Boston, Mass	30.22‡	767.6‡	.....	.....	61	16.1	77	SW	10	4.5	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Wyoming, Trieste, Austria	29.97‡	761.2‡	.....	.....	72	22.2	46	NW	.....	.....	1	.....	8	.....	NW	.....	.....	Smooth	NW	Fair	
Wachusett, Ben Lomond, Arkansas.	30.03‡	762.7‡	.....	.....	80	26.7	82	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebur .
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal. †		29.94‡	760.5‡	55	12.8		SW			1		2		SW	0			Overcast	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. O. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 38° 43', E. 184° 33'....†		30.00‡	762.0‡	80	26.7		Var.			1		ks		NW	0	Smooth	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 49° 48', W. 16° 04'.....		29.81‡	757.2‡	57.0	13.9	90	WSW			6		5		W	0	Rough	WSW	Cloudy†.....	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.63‡	752.6‡				S			4		10		SW				Raining.....	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.56‡	750.8‡	68	20.0	84	W			5		2		W	Light			Cloudy?	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 14', W. 84° 23'		30.15‡	765.8‡	84	28.9	71	Calm	0	0		5c	2k	Calm	Calm	0	Smooth		Clear?	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.12‡	765.0‡				NE			5		2			0				N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

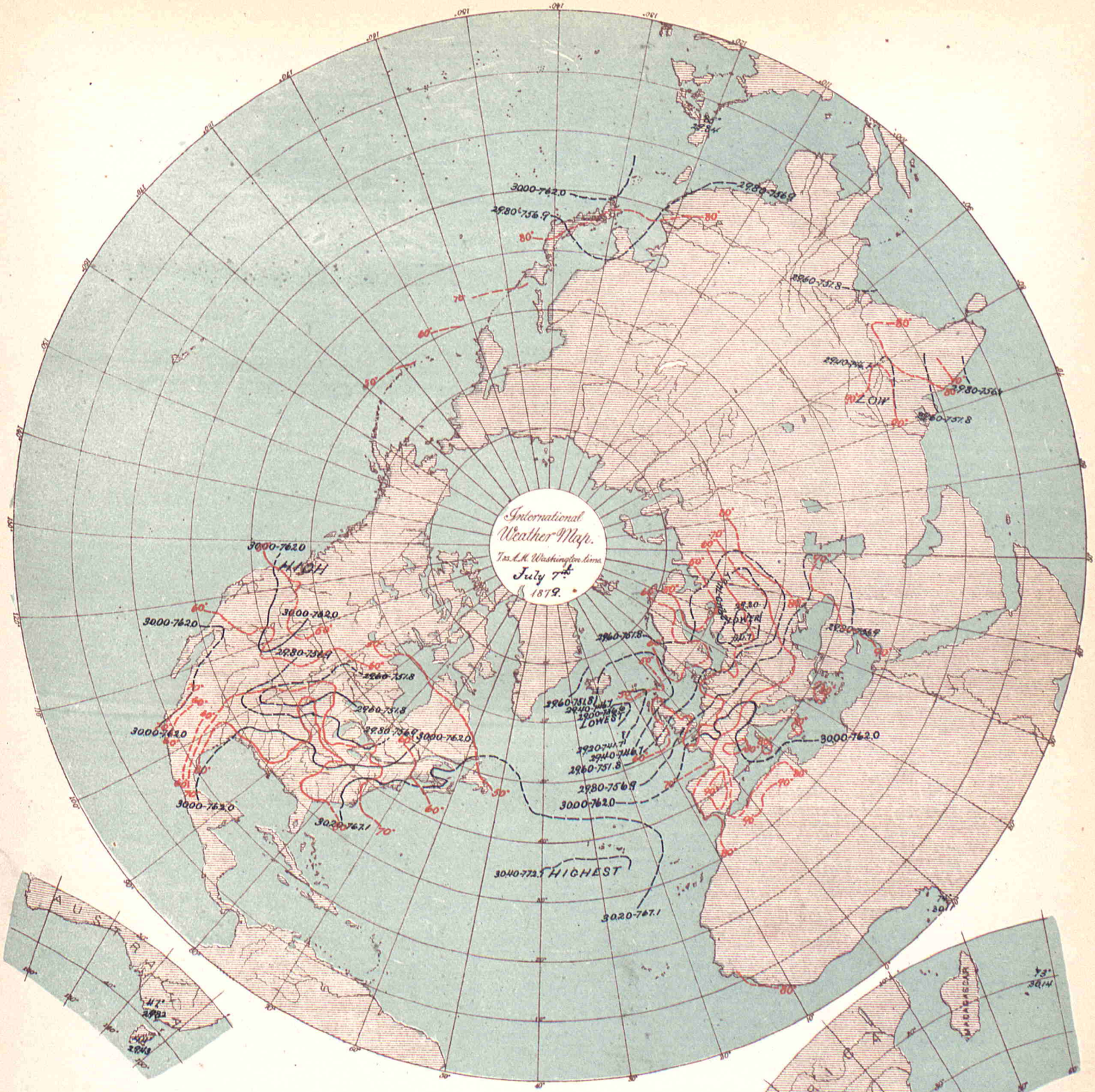
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 8, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	29.99	761.8	68.0	20.0	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.03	762.8	77.7	25.4	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.98	761.5	82.4	28.0	54	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	30.02	762.5	75.6	24.2	83	ENE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.17	766.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.5	97.7	36.5	12	NW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.06	763.6	91.9	33.3	28	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.09	764.3	82.2	27.9	39	WNW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Brugulaux.
Laghouat	.....	.....	30.03	762.7	97.2	36.2	29	SW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.05	763.3	97.5	36.4	41	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,860? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.1	29.89	759.3	81.0	27.7	35	S	.....	.....	5	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.03	737.4	29.77	756.2	69.4	20.8	65	SW	.....	.....	3	.....	10	.....	.....	0.047	1.2	.....	Dr. Wierzbiski.
Eperies	28.97	735.7	29.82	757.4	64.4	17.8	90	S	.....	.....	2	.....	9ks	.....	.....	0.138	3.50	.....	Julius Mikolik.
Gratz	28.67	728.3	29.87	758.8	73.8	23.2	66	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.60	726.3	29.97	761.1	74.3	23.5	51	W	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.50	723.8	29.77	756.1	75.6	24.2	54	N	.....	.....	2	.....	0	.....	.....	0.079	2.0	.....	Prof. C. Wagner.
Lemberg	28.82	732.1	29.78	756.4	64.6	18.1	68	SW	.....	.....	3	.....	9	.....	.....	0.012	0.3	.....	Dr. T Stanecki.
Pola	29.90	759.4	30.00	762.1	82.8	28.2	56	S	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.52	749.8	29.97	761.3	65.5	18.6	68	E	.....	.....	2	.....	10	.....	.....	0.055	1.4	.....	Julius Csics, S. J.
Szegedin	29.66	753.3	29.92	760.0	78.8	26.0	48	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.89	759.3	30.00	761.9	79.3	26.3	54	W	.....	.....	1	.....	1	.....	.....	Inap.	Inap.	.....	P. Busin.
Vienna	29.17	740.8	29.89	759.2	72.9	22.7	61	SSW	.....	.....	1	.....	9	.....	.....	0.012	0.3	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	28.97	735.8	29.06	738.1	57.5	14.2	.....	S	15	6.7	.....	.....	6	.....	.....	0.030	0.76	D. clouds	W. Boswell.
Ardrossan	28.96	735.6	28.98	736.1	58	14.4	.....	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	Wm. McNeil & G. Carrick
Armagh, Observatory	29.86	758.4	30.08	764.0	57.5	14.2	.....	WSW	14	6.3	.....	.....	9	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.23	742.4	57.0	13.9	.....	W	30	13.4	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.20	741.7	54.7	12.6	.....	SW	24	10.7	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	28.82	732.0	29.22	742.2	57.0	13.9	.....	W	.....	.....	5	.....	5	.....	.....	0.12	3.0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.03	762.7	30.06	763.5	80	26.7	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.30	744.2	29.39	746.5	58.0	14.4	.....	S	.....	.....	2-3	.....	10	.....	.....	.....	.....	Drizzling	H. Todd.
Cardington	.....	.....	29.37	746.0	58.4	14.7	.....	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.38	746.2	29.51	749.5	58.2	14.6	.....	W	.....	.....	6	.....	9	.....	.....	.....	.....	Drizzling	J. Carmell, Sapper. R. E.
Donaghadee	29.00	736.6	29.94	760.5	59	15.0	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.53	750.0	29.56	750.8	57	13.9	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.33	745.0	29.55	750.6	58.9	14.9	.....	WSW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.81	706.4	30.09	764.3	55.0	12.8	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	73	22.8	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.24	742.7	56.5	13.6	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	76.5	24.7	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.80	756.9	29.00	736.6	56.0	13.3	.....	SSW	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean. [O.
Great Yarmouth	29.42	747.3	29.43	747.5	59	15.0	.....	SW	.....	.....	5	.....	6	.....	.....	.....	.....	Squally	G. T. Watson.
Greenwich, Royal Obs'y	29.31	744.5	29.48	748.8	58.0	14.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy.
Guernsey	29.42	747.3	29.64	752.8	57.5	14.2	.....	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.55	750.6	29.67	753.6	61	16.1	.....	SW	.....	.....	6	.....	8k	.....	.....	0.12	3.0	Gloomy	M. P. Moyle.
Holyhead	29.20	741.7	29.21	741.9	57	13.9	.....	SSW	.....	.....	6	.....	5	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.42	747.3	29.71	754.6	57.2	14.0	.....	WSW	.....	.....	6	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.44	747.8	29.47	748.5	67.0	19.4	.....	SSW	23	10.3	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester, Museum	29.11	739.4	29.35	745.5	61.0	16.1	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.02	762.5	30.09	764.3	80	26.7	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	28.92	734.6	29.01	736.8	55	12.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.15	765.8	85.0	29.4	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.12	739.6	29.31	744.5	61.1	16.2	.....	SSW	.....	.....	6	.....	9k;ck;	ks;d]	WSW	0.302	7.67	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.80	731.5	29.30	744.2	60.0	15.6	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.45	748.0	59	15.0	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.46	748.3	29.54	750.3	56.8	13.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Showery	John Merrifield.
Prince Town	28.09	713.5	29.54	750.3	48.9	9.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. H. Tooker.
*Roche's Point	29.33	745.0	29.43	747.5	57	13.9	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.21	741.9	29.36	745.7	55	12.8	.....	WSW	.....	.....	8	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.11	739.4	53	11.7	.....	E	24	10.7	.....	.....	10	.....	.....	.....	.....	Raining	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.94	760.5	30.00	762.0	85.0	29.4	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	28.98	736.1	29.25	742.9	63.9	17.7	.....	SSW	.....	.....	6	.....	5	.....	.....	0.11	2.8	D. clouds	W. F. Cooper.
Silloth Rectory	29.07	738.4	29.10	739.1	53.5	11.9	93	SW	.....	.....	7	.....	10	.....	.....	0.100	2.54	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.21	741.9	57.4	14.1	.....	SSW	23	10.3	.....	.....	10	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.28	743.7	29.49	749.0	56.7	13.7	.....	SW	.....	.....	2-3	.....	10	.....	.....	.....	.....	Raining	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.61	752.1	29.63	752.6	60	15.6	.....	W	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.44	747.8	29.46	748.3	57.6	14.2	.....	W	25	11.2	.....	.....	8	.....	.....	Blank	Blank	Squally	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.17	766.3	30.21	767.3	63.0	17.2	55	NW	3.4	1.5	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.42	747.3	45	7.2	93	Calm	.....	.....	0	.....	10kn	.....	.....	0.02	0.5	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.05	737.9	60.5	15.8	.....	SW	.....	.....	4	.....	6k	.....	.....	0.20	5.1	Cloudy	Andrew Gibb
Mauritius, Observatory	29.96	761.0	30.15	765.8	74.4	23.6	70	NNE	8.0	3.6	.....	8	1	.....	ENE	0.03	0.8	Cloudy	C. Meldrum.
Melbourne, Observatory	29.65	753.1	29.74	755.4	46.0	7.8	71	NW	12	5.4	.....	0	.....	.....	.....	0.06	1.52	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	28.99	736.3	54	12.2	.....	SE	.....	.....	3	10	5	E	.....	0.6	15.	.....	J. Youngclaus.
North Unst (Shetland Is.)	.....	.....	29.27	743.4	51	10.6	.....	SE	.....	.....	4	2	7	E	.....	Blank	Blank	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 35'. E. 28° 35'	.....	.....	30.03‡	762.7‡	73	22.8	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Agnes Wilson, N. 35° 40', W. 71° 45'	.....	.....	30.14	765.5	76	24.4	.....	SSW	.....	.....	3	.....	6	NW	.....	2	E	Misty	Capt. H. W. Dyke.
Astarte, N. 39° 55', W. 35° 55'.....*	.....	.....	30.32‡	770.1‡	75.2	24.0	.....	S	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. Parson.
British Peer, N. 58° 35', W. 11° 35'	.....	.....	29.21‡	741.9‡	52.5	11.4	.....	NNE	.....	.....	6	.....	5	.....	.....	.....	.....	Squally	Capt. Raymond.
Theophane, S. 33° 00', E. 11° 00'	.....	.....	30.16‡	766.1‡	60.5	15.8	.....	WSW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.29	667.8	30.01	762.2	66.6	19.2	93	SE			1	10ck				1.8	46.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.43	747.5	29.48	748.7	60.8	16.0	69	SW			2		10					Raining	
Fanöe	29.42	747.3	29.44	747.8	54.3	12.4	80	W			4		10						
Godthaab (Greenland)	29.78	756.5	29.83	757.6	40.3	4.6	97	S			4		10					Raining	
Stykkisholm (Iceland)	29.72	754.8	29.76	755.9	50.2	10.1	71	E			7		0						
Thorshavn (Farõe)	29.31	744.5	29.35	745.4	52.9	11.6	87	NE			2		7						
Vestervig	29.29	744.0	29.40	746.8	59.2	15.1	78	SSW			4		3						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.26	743.3	29.82	757.3	63.3	17.4	61	SW			1		5		SW	0.059	1.5	Cloudy	Collignon, Director.
Amiens, Normal School	29.62	752.4	29.73	755.1	65.8	18.8	52	SW			2		5		E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.44	747.7	29.69	754.1	60.4	15.8	52	W			5				W	0.217	5.5		Klein, Commandant.
Avignon, Normal School	29.88	758.9	29.96	760.9	76.6	24.8	66	S			2		8		WSW	0	0	Very cloudy	Giraud, Director.
Aar-sur-Seine	29.27	743.5	29.82	757.3	63.9	17.7	82	SW			1		10		SW	0.012	0.3	*Light rain	C. Saillard, Director.
Beauvais, Normal School	29.46	748.2	29.72	754.8	65.5	18.6	47	W			5		8		W	0.055	1.40	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.99	736.4	29.84	757.8	78.3	25.7	40	S			1		0			0.193	4.9	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.04	737.5	29.96	761.0	82.0	27.8	51	S			1		2k	S	S	0.024	0.6	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.36	745.8	29.90	759.4	66.9	19.4	81	SW			5		10ckn	SW	SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.48	748.9	29.73	755.1	62.2	16.8	79	SW			5		10		SW	0.138	3.50		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.57	751.0	29.97	761.2	75.2	24	60	NW			3		2		NW	0	0	Slightlycl'dy	September, Dir.
Caen, Normal School	29.63	752.7	29.71	754.6	64.0	17.8	63	SW			2				SW	0.126	3.2		Lair, Director.
Chartres, Normal School	29.23	742.5	29.78	756.5	66.4	19.1	83	W			3		8		E	0.102	2.6		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.2	29.77	756.1	62.2	16.8	92	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.54	725.0	29.83	757.6	79.5	26.4	47	SW			2		5		SW	0	0		Alluard, Director.
Commercy, Normal School.	29.95	760.4	29.80	756.9	60.3	15.7	98	SW			3		10			0.091	2.3	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.79	731.2	29.93	760.2	77.0	25.0	44	SW			3		8		SW	0	0		La Kina, Director.
Grenoble, Normal School	29.13	740.0	29.85	758.3	81.3	27.4	47	NW			1		5k		SW	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.73	755.1	29.94	760.4	66.9	19.4	60	WSW			3		5		W	0.079	2.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.52	749.8	29.80	756.9	65.3	18.5	50	W			5		5		SW	0.049	1.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.98	736.2	29.87	758.6	79.2	26.2	55	SW			3		2s	W	W	0	*0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.75	755.6	29.85	758.2	63.0	17.2	70	SW			6				W	0.169	4.3		Lt. T. Carré, Director.
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	29.75	755.7	30.02	762.4	74.8	23.8	52	SSW			3		7			Inap.	Inap.		E. Stephan, Director.
Mirecourt, Normal School	28.78	731.1	29.80	756.9	64.4	18	74	SW			5		10		SW	0	0	Covered	Barbier, Director.
Mont-Louis	24.97	634.2	30.28	769.2	68.0	20.0	40	SW	18.6	8.3			4		W	0.067	1.7		M. Cave.
Nismes, Normal School	29.76	756.0	29.96	761.0	85.6	29.8	39	SW			3		5		SW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.47	748.6	66.0	18.9	57	WSW			5		5		WSW	0.091	2.3		Marie Davy, Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.66	575.6			54.3	12.4		SW			1		8			0.039	1.0	Threatening	Gen'l de Nansouty.
Perpignan	29.81	757.2	29.91	759.8	75.0	23.9	60	NE	9.4	4.2			7		WNW	Inap.	Inap.		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.13	638.4			55.9	13.3	90	SW			5		8			0.020	0.5	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.33?	770.4?	29.97?	761.2?	66.2	19.0	68	W			2		8		W	0.12	3.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.62	752.4	29.71	754.6	64.0	17.8	47	SSW			3		10		SSW	0.039	1.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.70	754.4	29.73	755.2	60.3	15.7	74	WSW			5		8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.59	751.6	29.76	755.8	66.9	19.4	63	SW			3–5		7		WSW	0.004	0.1		E. Renou, Director.
Tarbes, Normal School	28.98	736.0	30.03	762.8	65.2	19	74	W			3		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.35	745.4	30.07	763.8	65.5	18.6	85	NW			3		10			0	0		M. Julier Mercadier.
Tours	29.57	751.0	29.84	758.0	68.0	20.0	57	W			5		7		WSW	0	0		Cousin-Marquet.
Versailles, Observatory	29.27	743.4	29.76	755.9	65.5	18.6	50	WNW			5		0			0.003	0.08		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.19	741.4	29.87	758.6	61.1	27.3	55	ESE			2		5		E	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	77.4	25.2										0.03	16.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.25	742.9	29.83	757.6	65.1	29.5	42	SSW			1		5		SW	0	0	Cloudy	Ch. André, Director.
Nice			30.04	763.1	77.0	25.0	74	SSW			3		8			0	0		Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.70	754.3	29.72	754.9	80.6	27.0	84	SE	17.7	7.9			3			0	0	Cloudy	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.07ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 138.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.91	734.2	29.74	755.4	71.6	22.0	70	SW			4		7	SW		0.315	8.0	Raining	Prof. Dr. Hoh.
Berlin	29.45	748.1	29.62	752.3	70.7	21.5	60	W			1		9			0.031	0.8		Prof. Dr. Arndt.
Breslau	29.22	742.1	29.74	755.4	69.6	20.9	62	SW			4		10			0	0		Royal University Obsi'y.
Carlsruhe	29.34	745.3	29.75	755.7	70.2	21.2	69	SW			3		10	SW		0.331	8.4	Raining	Albert Sens.
Cassel	29.07	738.3	29.67	753.6	68.0	20.0	70	SSW			3		5	W		0.126	3.04		Dr. H. Möhl.
Crefeld	29.47	748.5	29.63	752.6	63.1	17.3	68	SW			4		9			0.20	5.		Director Lose.
Emden			29.59	751.6	59.9	15.5	63	WSW			7		10			0.213	5.4		Prof. Dr. Prestel.
Frankfort on the Main	29.40	746.7	29.76	755.9	66.2	19.0		SSW			2		10			0.185	4.7		Physical Society.
Freienwalde on the Oder	29.55	750.6	29.59	751.6	70.2	21.2	64	W			4		8ks	W		0.036	0.9		Dr. Assmann.
Friedrichshafen	28.42	721.9	29.79	756.7	72.7	22.6	67	W			2		1			0.220	5.6		M. Wilhelm.
Hamburg	29.48	748.8	29.55	750.5	64.4	18.0	63	WSW			6		7k			0.146	3.7	Squally	Captain F. Hegemann.
Kiel	29.50	749.4	29.52	749.8	60.6	15.9	64	W			6		10			0.168	4.26		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.47	748.5	29.55	750.5	64.9	18.3	66	W			5		4			0.039	1.0		Prof. E. Luther.
Köslin			29.50	749.2	65.5	18.6		W			2		2			0.322	8.2		H. Müller.
Leipsic Observatory	29.26	743.3	29.67	753.6	68.9	20.5	69	SSW			3		9	SW		0.028	0.7		Prof. Bruhns, Privy Counselor.
Memel	29.47	748.4	29.51	749.6	59.9	15.5	82	WSW			6-7		10n						Skalweit.
Munich (München)	28.04	712.3	29.91	759.6	74.5	23.6	45	SW			6		3			0.165	4.2		Dr. C. Lang.
Neufahrwasser	29.54	750.3	29.56	750.7	69.1	20.6	61	SSW			3		9			0.134	3.4		A. Lothes.
Posen	29.43	747.5	29.71	754.6	68.5	20.3	74	SW			6		6			0.091	2.3		Dr. Magener.
Strassburg (in Alsace)	29.26	743.1	29.78	756.5	74.1	23.4	51	W			4		9	W		0.143	3.63	Raining	Imp. University Observatory.
Stuttgart	28.84	732.4	29.72	754.9	77.0	25.0	60	W			1		7	W		0.169	4.3		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.33	719.6	29.78	756.3	69.1	20.6	49	SW	16	7			5ck	NW	SW	0.197	5.0		T. Hopfner.
Wustrow	29.51	749.6	29.54	750.2	63.3	17.4	66	WSW			5		5s			0.055	1.4		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.8	30.05	763.3	83.5	28.6		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.37	746.0	29.42	747.2	85.1	29.5	72	WNW				10	WSW	WSW	0	0	Overcast	
Deesa	29.03	737.4	29.49	749.1	89.2	31.8	57	SW	23.2	10.4		8		SSW	0	0	D. clouds	
Bombay	29.63	752.5	29.66	753.4	82.6	28.1	84	WSW	17.0	7.6		10		SW	0	0	Overcast	
Poona	27.82	706.5	29.66	753.4	78.3	25.7	67	WSW				4	WSW		0	0	D. clouds	
Lahore	28.56	725.3	29.25	743.0	104.3	40.2	40	NE	3.8	1.7		6			0	0	D. clouds	
Belgaum	27.20	691.0	29.75	755.7	71.6	21.9	88	W	9.0	4.0		10	E	W	0.04	1.0	Showery	
Roorkee	28.52	724.4	29.40	746.8	82.8	28.2	89	S	4.1	1.8		6			1.30	33.0		
Agra	28.88	733.5	29.43	747.5	88.7	28.7	85	S				10		S	0	0		
Nagpur	28.51	724.1	29.54	750.2	82.5	28.1	71	NW	3.8	1.7		9		SE	0	0	Gloomy	
Lucknow	29.04	737.7	29.41	747.0	85.9	29.9	85	E	1.0	0.4		4	NE		0.03	0.8	D. clouds	
Allahabad	29.14	740.2	29.45	748.1	79.5	26.4	96	NW	2.4	1.1		10			2.16	54.6	Drizzling	
Patna	29.25	742.9	29.43	747.4	83.3	28.5	84	SSE	0.3	0.1		8	SE	SE	0.78	19.8	D. clouds	
Hazaribagh	27.48	698.1	29.47	748.4	79.8	26.6	84	W	8.1	3.6		10			0.13	3.3	Raining	
Cuttack	29.42	747.2	29.60	749.2	83.8	28.8	79	SW	4.0	1.8		7			0.02	0.5	D. clouds	
Calcutta (Alipore)	29.48	748.7	29.60	749.2	83.6	28.7	87	S	8.0	3.6		10	W		0	0	Overcast	
Goalpara	29.12	739.6	29.60	749.4	80.3	26.8	92	SE	2.3	1.0		9			1.17	29.7	D. clouds	
Chittagong	29.54	750.3	29.63	752.7	81.9	27.2	91	SSE	6.0	2.7		8			0	0		
Sibsagar	29.25	743.0	29.58	751.4	78.5	25.8	94	SW	2.8	1.2		10			0.88	22.4	Raining	
Jubbulpore	28.15	715.1	29.51	749.5	79.0	26.1	79	NW	5.7	2.6		10		S	0.07	1.8	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or Instrumental error and temperature. Inches.	BAROMETER. Corrected or Instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.60	751.8	29.99	761.8	75.6	24.2	55	NE	1.8	0.8	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.46	748.3	29.96	761.0	79.9	26.6	33	SW	.....	.....	2	.....	6	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.85	758.3	29.96	761.0	80.1	26.7	46	SW	2.5	1.1	.....	.....	6	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalleri	29.06	738.2	29.93	760.2	78.8	26.0	39	S	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.86	758.5	30.05	763.2	70.9	21.6	74	SE	11.2	5.0	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.09	713.4	29.93	760.1	74.1	23.4	55	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.93	760.2	29.97	761.3	86.7	30.4	26	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.78	756.4	30.03	762.7	83.3	28.5	42	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.97	761.3	30.06	763.4	75.9	24.4	67	S	13.0	5.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.94	760.4	30.11	764.7	81.3	27.2	40	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.84	758.0	30.09	764.2	82.4	28.0	37	W	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.21	742.0	30.05	763.2	84.9	29.4	61	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.89	759.3	30.09	764.2	75.7	24.3	59	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.87	758.8	30.12	765.1	76.6	24.7	55	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.00	762.0	30.07	763.8	83.1	28.4	59	NE	4.9	2.2	.....	.....	2	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.1	30.17	766.2	77.5	25.3	68	S	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.96	761.0	29.98	761.5	77.3	25.2	92	Calm	0	0	.....	.....	7s;ks	.....	.....	0.363	9.22	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.00	762.0	79.3	26.3	81	SSW	6.2	2.8	.....	.....	2s	.....	.....	0.030	0.76	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.87	758.7	29.93	760.2	75.6	24.2	86	NNE	9.2	4.1	.....	.....	10n	.....	.....	0.015	0.38	Light rain	The Staff.
Wakayama	29.93	760.2	29.98	761.5	75.1	23.9	92	SW	1.4	0.6	.....	.....	2s	.....	.....	0.005	0.13	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Guernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.9	30.14	765.6	67.2	14.0	76	NW	.....	.....	1	.....	10	.....	Calm	0.03	0.8	Covered	Prof. L. Perez.
Leon	24.47	621.5	30.12	765.1	62.2	16.8	90	SW	.....	.....	2	4c	2s	E	.....	0.74	18.9	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.06	764.0	56.7	13.7	83	NW	4.2	1.9	.....	9k	0	NW	.....	0.10	2.5	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.3	15.7	85	Calm	.....	.....	0	0	9ks	.....	SE	0.02	0.5	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.98	761.4	29.99	761.7	76.1	24.5	90	NW	.....	.....	1	.....	10	.....	SE	0.07	1.7	Raining	Prof. M. M. Chàzaro.
San Luis Potosi	24.30	617.3	30.26	768.7	60.1	15.6	48	E	.....	.....	1	.....	10	.....	E	0.07	1.8	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.60	574.0	30.19	766.8	55.4	13.0	86	NE	.....	.....	2	.....	10n	.....	SE	Inap.	Inap	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.44	595.4	30.21	767.2	53.4	11.9	63	Calm	0	0	.....	7ck	0	Calm	.....	0.004	0.1	Cloudy	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.63	752.6	29.92	759.9	80.1	26.7	68	NW	.....	.....	1	7	0	.....	.....	0.04	1.0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Guernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.61	752.0	29.61	752.0	61.5	16.4	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	.....
Groningen	.....	.....	.....	.....	60.4	15.8	.....	SW	.....	.....	4	.....	.....	.....	.....	0.157	4.0	.....	.....
Helder	29.49	749.1	29.49	749.1	59.4	15.2	.....	SW	.....	.....	6	.....	.....	.....	.....	0.047	1.2	.....	.....
Hellevoetsluis	29.58	751.3	29.58	751.3	61.7	16.5	63	WSW	.....	.....	7	.....	.....	.....	.....	0.008	0.2	.....	.....
Utrecht	29.54	750.3	29.59	751.5	62.1	16.7	57	SW	.....	.....	5	.....	8	.....	.....	0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Bergen	29.27	743.5	29.33	744.9	61.2	16.2	53	W	7.4	3.3			8			0	0		
Brōno	29.35	745.4	29.39	746.4	62.2	16.8	33	N	11	5			0			0	0		
Christiania	29.21	741.9	29.35	745.5	57.2	14.0	90	Calm	0	0			10			0.425	10.8	Raining	
Tromsō	29.45	748.0	29.49	749.1	59.2	15.1	46	NNW	11	5			4			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Hum. %	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Angra (Azores)	30.34	770.5	30.52	775.8	72.0	22.2	79	SSW	1.8	0.8			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.00	762.0	86.0	30.0	30	W	10.5	4.7			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.2	30.13	765.4	73.0	22.8	69	SW	6.9	3.1			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.79	756.7	30.15	765.7	72.1	22.3	64	N	21.0	9.4			1			0	0		The Staff.
Ponta Delgada (Azores)	30.33	770.3	30.40	772.1	75.2	24.0	66	NE	18.1	8.1			6			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Bar. corr. Inches	Bar. corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Hum. %	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 08', E. 8° 49'			30.04	763.1	74.7	23.7		SSW			4		3		SSW	2	SSW	D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.11	764.7	64.4	18.0		NW			3		5		NW	1	NW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island			30.07	763.7	75.2	24.0		NE			4		2		NE	3	NE	D. clouds	A. A. A. Loureiro.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.77	756.1	85.1	29.5		SW			2		4		SW	2	SW	Raining. 7 hours rain-fall.]	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Hum. %	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Warsaw	29.25	742.9	29.65	753.2	69.1	20.6	60	WSW	16	7			6ks						Astronomical Obs.
Wilna	29.20	741.6	29.60	751.9	61.5	16.4	71	WSW	4	2			10					Raining	Astronomical Obs.
Dorpat	29.15	740.5	29.39	746.5	56.8	13.8	69	W	9	4			10ks						Prof. Dr. Weihrauch.
St. Petersburg	29.23	742.5	29.25	742.9	50.0	10.0	89	WSW	22	10			10n					Raining	Central Physical Obs.
Kieff	29.19	741.4	29.81	757.2	61.5	16.4	77	NNE	4	2			7k;ks;	cn]				Raining	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	78.6	25.9	44	SSW	13	6			4k						Kurdakof.
Kertch	30.00	762.0	30.02	762.5	74.3	23.5	68	Calm	0	0			2						Lagorio.
Moscow	29.17	740.9	29.70	754.4	63.1	17.3	63	S	27	12			9ks					Light rain	Meteorological Obs.
Lugan	29.66	753.4	29.86	758.4	77.2	25.1	32	SW	9	4			8						Meteorological Obs.
Archangel	29.38	746.2	29.40	746.7	58.8	14.9	71	E	13	6			10					Raining	Capt. Ssoliwerstow.
Tiflis	28.43	722.0	29.74	755.4	94.1	34.5	35	SE	13	6			2k						Physical Observatory.
Astrakhan	29.87	758.8	29.79	756.7	92.7	33.7	36	SE	9	4			0						Capt. Wisganow.
Krotkowo*	29.41	746.9	29.85	758.3	72.0	22.2	84	NNW	0	0			9ks						Cand. Fatjanow.
Kasan	29.54	750.2	29.79	756.6	76.3	24.6	60	Calm	0	0			10k						Physical Cabinet.
Ekaterinburg	28.89	738.7	29.78	756.3	88.0	31.1	34	W	4	2			1k						Meteorological Obs.
Nukuss	29.63	752.6	29.85	758.1	91.6	33.1	28	NNE	7	3			0						
Tashkend	28.02	711.7	29.44	747.8	94.6	34.8	55	Calm	0	0			0						Teich, A. M.
Barnaul	29.21	741.8	29.68	753.9	67.5	19.7	80	SW	0	0			10					Raining	Meteorological Obs.
Yeniseisk	29.35	745.6	29.63	752.7	65.1	18.4	94	SSW	2	1			9						Marks.
Irkutsk																			
Peking (China)	29.70	754.4	29.84	758.0	65.1	18.4	84	Calm	0	0			8n					Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Hum. %	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Barcelona, Met. Obs'y	29.87	758.7	29.97	761.3	78.1	25.6	64	SW	4.5	2.03			67			0.078	1.84	Clear?	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.01	762.3	30.07	763.7	72.7	22.6	69	NW	3.1	1.37			10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.3			82.8	28.2	36	S	4.5	2.03			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.78	705.7	29.84	757.9	95.0	35.0	25	SW	12.7	5.67		0	1			0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.92	760.3	97.9	36.6	34	SSE	2.8	1.25		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	741.9	30.08	764.1	71.2	21.8	60	NW	8.1	3.6			4			0.012	0.3	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	763.7	30.13	765.4	81.2	27.3	77	E	5.1	2.8		1c	0			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.86	758.4	29.91	759.8	85.5	29.7	78	NE	0	0			10n		E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.8	30.05	763.2	79.0	26.1	62	WNW	11.9	5.3		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.02	762.6	30.11	764.9	84.9	29.4	67	E	6.3	2.80		2c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.41	746.9	29.45	747.9	53.2	11.8	.....	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.37	745.9	29.42	747.2	49.6	9.8	100	NE	.....	.....	4	.....	10	.....	.....	0.142	3.6	.....	
Hernosand	29.41	746.9	29.46	748.2	53.6	12.0	84	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.24	742.8	29.42	747.3	57.9	14.4	100	S	.....	.....	2	.....	10	.....	.....	0.150	3.8	.....	
Wisby	29.38	746.3	29.44	747.8	59.7	15.4	72	W	.....	.....	4	.....	10	.....	.....	0.004	0.1	.....	
Sub-Series.																			
Upsala	29.32	744.7	29.41	746.9	60.8	15.7	59	NNE	8.8	3.7	.....	.....	4	NW	NNW	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 36° 26′; W. 7° 49′	.....	.....	30.15	765.7	71.1	21.7	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.5	29.83	757.7	62.4	28.0	38	S	.....	.....	3	.....	7	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.24	717.4	29.80	756.9	78.1	25.6	68	W	.....	.....	2	.....	1	.....	.....	0.677	17.2	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, −3.9 mm.; Thermometer, +5.6 Cent.; Relative Humidity, −15 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.05	763.3	75.4	24.1	31	NE	14	6.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	79.7	26.5	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.72	754.9	29.84	757.8	86.9	30.5	57	W	.....	.....	2	.....	1s	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chatham, N. B	29.83	757.7	29.89	759.2	59	15.0	85	SW	11	4.9	.....	.....	10ks	.....	SW	0	0	Cloudy	W. R. Bigg.
Charlottetown, P. E. Island	29.98	761.5	30.02	762.5	62	16.7	77	SW	16	7.2	.....	2ck	2s	W	.....	0	0	Fair	G. A. Blair.
Cornwall, Ontario	29.43	747.5	29.61	752.1	69.5	20.8	83	NW	.....	.....	1	.....	10s	.....	.....	0.052	1.32	Cloudy	H. J. Cundall, C. E.
Dalhousie, N. B	29.66	753.4	29.82	757.4	56.9	13.8	88	E	3	1.3	.....	.....	10ks	.....	.....	0	0	Gloomy	James Smith, M. A.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
*Father Point, Quebec	29.67	753.6	29.69	754.1	65	18.3	80	S	20	8.9	.....	2k	8n	SW	SW	0.07	1.8	Cloudy	W. H. Bevis.
Fredericton, N. B	29.90	759.4	29.96	761.0	62.0	16.7	76	SW	8	3.6	.....	.....	10s	.....	SW	0.53	13.5	Overcast	J. McWilliams.
*Fort Garry, Manitoba	28.96	735.6	29.75	755.6	62	16.7	83	W	6	2.7	.....	0	0	.....	.....	0.030	0.76	Clear	Prof. Harrison.
Granton, Ontario	28.68	728.5	29.72	754.9	71	21.7	95	W	.....	.....	1	1cs	0	W.	.....	1.03	26.2	Clearing	James Stewart.
*Halifax, N. S	29.99	761.7	30.10	764.5	66	18.3	93	SW	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	James Grant.
Hamilton, Ontario	29.36	745.7	29.71	754.6	74.3	23.5	90	NW	.....	.....	1	5ck	0	NW	.....	0.70	17.8	Fair	F. Allison, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Dickson, A. M.
*Kingston, Ontario	29.32	744.7	29.64	752.8	65	18.3	94	NW	10	4.5	.....	.....	10ks	.....	NW	0.22	5.6	Cloudy	E. Weedon.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	64.6	18.1	63	NW	4	1.8	.....	2k	0	W	.....	0	0	Fair	S. Woods, M. A.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
*Montreal, Quebec	29.48	748.8	29.67	753.6	66	18.9	79	S	15	6.7	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	J. R. Nason
*Parry Sound, Ontario	28.92	734.6	29.58	751.3	67	19.4	86	W	18	8.0	.....	2ck	0	W	.....	0	0	Fair	C. H. McLeod, C. E.
Peterboro, Ontario	28.93	734.8	29.64	752.8	73.7	23.2	81	Calm	.....	.....	0	0	s	.....	.....	0.21	5.3	Fair	Rev. R. Mosley.
Port Dover, Ontario	29.07	738.4	29.73	755.1	71	21.7	95	W	9	4.0	.....	10ck	0	NW	.....	1.42	36.1	Fair?	J. F. Jeffers, B. A.
Port Hastings, N. S	30.02	762.5	30.07	763.8	64.1	17.8	.....	W	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Stanley, Ontario	29.14	740.1	29.75	755.6	68	20.0	97	W	10	4.5	.....	5k	8ks†	W	W	1.97	50.0	Clearing	Peter Grant.
*Quebec, Quebec	29.41	747.0	29.72	754.9	64	17.8	97	NW	.....	.....	1	.....	10n	.....	NW	0.17	4.3	Light rain	M. Payne.
*Rockliffe, Ontario	29.14	740.1	29.67	751.1	69	20.6	85	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Threatening	Capt. Ashe, R. N.
St. Andrews, N. B	29.90	759.4	29.95	760.7	57	13.9	89	SE	.....	.....	3	5k	5n	W	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.84	757.9	30.01	762.2	54	12.2	87	SW	15	6.7	.....	.....	10ks	.....	.....	1.05	26.7	Overcast	Dr. Gove.
*Saugeen, Ontario	29.00	736.6	29.68	753.9	70	21.1	82	SW	14	6.3	.....	2k	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Stayner, Ontario	28.96	735.6	29.71	754.6	62	16.7	66	N	2	0.9	.....	8k	0	SW	.....	0	0	Cloudy	K. Stewart.
Stratford, Ontario	28.40	723.6	29.70	754.4	71.3	21.8	90	NW	12	5.4	.....	.....	10n	.....	.....	0.573	14.56	Cloudy	R. J. Cole.
*Sydney, C. B	30.04	763.0	30.07	763.8	65	18.3	51	W	3	1.3	.....	2c	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.32	744.7	29.68	753.9	72	22.2	85	W	11	4.9	.....	2cs	2ks	W	W	0.10	2.5	Cloudy	T. C. Hill.
Windsor, N. S	30.05	763.3	30.14	765.5	55.5	13.1	90	Calm	0	0	.....	.....	10n;k	.....	.....	0.03	0.8	Overcast	Magnetic Observatory.
Woodstock	28.71	729.2	29.71	754.6	72.1	22.3	91	W	12	5.4	.....	0	9n	.....	NW	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			Prof. J. Montgomery.
St. Johns, Newfoundland	29.76	755.9	30.01	762.2	47.0	8.5	92	NE	.....	.....	.....	.....	10n	.....	.....	0.10	2.5	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.76	756.4	64	17.8	94	S	9	4.0	.....	.....	10s	.....	S	1.52	38.6	Cloudy	
Alpena, Michigan	29.07	738.4	29.68	753.9	72	22.2	58	W	13	5.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	46	7.2	100	SE	.....	.....	4	.....	10n	.....	SE	0.02	0.5	Cloudy	
Atlanta, Georgia	28.98	736.1	30.07	763.8	81	27.2	62	S	7	3.1	.....	2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	29.88	758.9	29.89	759.2	65	18.3	94	SW	19	8.5	.....	.....	10s	.....	W	0.40	10.2	Cloudy	
Augusta, Georgia	29.95	760.7	30.14	765.5	76	24.4	82	SW	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Baltimore, Maryland	29.84	757.9	29.89	759.2	75	23.9	77	SW	10	4.5	.....	5c;k	Haze	SW	Calm	0.16	4.1	Fair	
Barnegat, New Jersey	29.86	758.4	29.88	758.9	67	19.4	100	SW	22	9.8	.....	.....	10s	.....	S	0.30	7.6	Cloudy	
Bismarck, Dakota	28.12	714.2	29.08	761.5	61	16.1	82	E	2	0.9	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Boerne, Texas	28.61	726.7	29.87	758.7	77	25.0	82	S	6	2.7	.....	0	8ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.98	685.3	29.04	760.5	57	13.9	52	SE	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.78	756.4	29.92	760.0	64	17.8	100	S	14	6.3	.....	.....	10n	.....	SW	0.24	6.1	Light rain	
Brackettville, Texas	28.88	733.5	29.87	758.7	79	26.1	74	SE	6	2.7	.....	0	8s	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.88	733.5	29.84	757.9	62	16.7	72	W	8	3.6	.....	2k	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.96	761.0	30.01	762.2	84	28.9	68	SE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.05	737.9	29.71	754.6	72	22.2	90	SW	16	7.2	.....	.....	10s	.....	SW	0.86	21.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	25	S	.....	.....	1	2k	5ks	E	E	0	0	Fair	
Burlington, Vermont	29.47	748.5	29.74	755.4	64	17.8	83	S	7	3.1	.....	.....	10s	.....	S	0.08	2.0	Cloudy	
Cairo, Illinois	29.70	754.4	30.07	763.8	53	28.3	71	SW	7	3.1	.....	5c	Haze	Calm	.....	0	0	Fair	
Campo, California	27.34	694.4	29.92	760.0	46	7.8	77	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	78	25.6	78	SW	15	6.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	76	24.4	82	S	25	11.2	.....	5cs	5s	SW	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.08	764.0	30.09	764.3	80	26.7	82	SW	17	7.6	.....	8cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.86	758.4	29.89	759.2	67	19.4	90	S	22	9.8	.....	5k	2ks	NW	S	0.26	6.6	Cloudy	
Castroville, Texas	29.26	743.2	29.93	760.2	80	26.7	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.06	763.5	30.11	764.8	80	26.7	75	SW	5	2.2	.....	2k	0	SW	.....	0	0	Fair	
Charlotte, North Carolina	29.24	742.7	30.01	762.2	78	25.6	73	W	6	2.7	.....	5ck	0	W	.....	0	0	Fair	
Chattanooga, Tennessee	29.32	744.7	30.09	764.3	82	27.8	71	SW	8	3.6	.....	1cs	0	Calm	.....	0.64	16.3	Clear	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	60	15.6	77	SW	6	2.7	.....	5ck	0	W	.....	Inap.	Inap.	Fair	
Chicago, Illinois	29.23	742.4	29.88	758.9	75	23.9	68	NW	4	1.8	.....	5c	Haze	Calm	.....	0.54	13.7	Fair	
Cincinnati, Ohio	29.35	745.5	29.96	761.0	80	26.7	76	W	6	2.7	.....	.....	10ks	.....	NW	0.21	5.3	Threatening	
Cleveland, Ohio	29.14	740.1	29.82	757.4	72	22.2	80	SW	12	5.4	.....	0	8s	.....	SW	0.17	4.3	Clearing	
Coleman City, Texas	28.22	716.8	29.80	756.9	80	26.7	51	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.11	739.4	29.90	759.4	76	24.4	77	NE	3	1.3	.....	.....	10n	.....	NW	0.44	11.2	Light rain	
Concho, Texas	28.10	713.7	29.69	754.1	78	25.6	73	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.60	751.8	30.05	763.3	77	25.0	86	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.31	744.5	29.92	760.0	73	22.8	72	N	6	2.7	.....	5cs	0	W	.....	1.10	27.9	Fair	
Deadwood, Dakota	25.34	643.6	.....	.....	60	15.6	65	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.88	733.5	29.99	761.7	78	25.6	73	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.26	743.2	30.01	762.2	79	26.1	78	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.82	630.4	30.04	763.0	63	17.2	72	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Des Moines, Iowa	29.09	738.9	29.92	760.0	75	23.9	68	NE	4	1.8	.....	0	5s	.....	N	0.13	3.3	Fair	
Detroit, Michigan	29.14	740.1	29.77	756.1	75	23.9	81	W	9	4.0	.....	.....	10s	.....	NW	0.08	2.0	Cloudy	
Dodge City, Kansas	27.38	695.4	29.64	760.3	74	23.3	76	S	18	8.0	.....	.....	8ks	.....	N	0.34	8.6	Cloudy	
Dubuque, Iowa	29.25	742.9	29.91	759.7	70	21.1	70	NW	4	1.8	.....	8c	Haze	Calm	Calm	0.52	13.2	Fair	
Duluth, Minnesota	29.17	740.9	29.82	757.4	66	18.9	69	SW	6	2.7	.....	0	0	.....	.....	0.44	11.2	Clear	
Eagle Pass, Texa	29.24	742.7	29.92	760.0	82	27.8	63	SE	7	3.1	.....	0	5s	.....	SE	0	0	Fair	
Eastport, Maine	29.90	759.4	29.97	761.2	54	12.2	87	S	10	4.5	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	83	S	.....	.....	1	5c	5s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.24	666.5	.....	.....	71	21.7	75	NW	10	4.5	.....	0	1s	.....	W	Inap.	Inap.	Clear	
Erie, Pennsylvania	29.10	739.1	29.77	756.1	73	22.8	90	SW	15	6.7	.....	.....	10s	.....	W	0.15	3.8	Cloudy	
Escanaba, Michigan	29.14	740.1	29.75	755.6	70	21.1	66	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.41	721.6	30.01	762.2	85	29.4	44	SW	2	0.9	.....	8ck	0	Calm	.....	Inap.	Inap.	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.86	707.6	.....	.....	57	13.9	87	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	72	22.2	54	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.50	749.3	30.01	762.2	83	28.3	60	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	71	21.7	75	E	4	1.8	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Fort Griffin, Texas	28.74	730.0	29.95	760.7	78	25.6	65	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.34	694.4	.....	.....	63	17.2	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.77	705.4	29.61	752.1	74	23.3	72	SE	12	5.4	.....	0	5s	.....	SE	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.83	757.7	79	26.1	70	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.06	712.7	.....	.....	63	17.2	83	Calm	0	0	.....	1c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	72	22.2	38	W	.....	.....	1	10k	0	W	.....	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.32	719.3	29.74	755.4	77	25.0	91	S	18	8.0	.....	2k	0	.....	.....	0	0	Fair	
Galveston, Texas	30.06	763.5	30.10	764.5	84	28.9	71	S	8	3.6	.....	5k	0	S	.....	Inap.	Inap.	Fair	
Graham, Texas	28.93	734.8	29.93	760.2	79	26.1	66	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.21	741.9	29.82	757.4	72	22.2	76	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.04	737.6	29.92	760.0	79	26.1	74	S	11	4.9	.....	2k	0	S	.....	0	0	Fair	
Indianapolis, Indiana	29.18	741.1	29.92	760.0	76	24.4	88	SW	3	1.3	.....	.....	10n	.....	SW	1.23	31.2	Light rain	
Indianola, Texas	30.06	763.5	30.08	764.0	85	29.4	72	S	8	3.6	.....	0	1ks	.....	S	0	0	Clear	
Jacksboro, Texas	28.88	733.5	29.95	760.7	81	27.2	63	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.14	765.5	30.17	766.3	85	29.4	64	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.31	744.5	29.88	758.9	78	25.6	91	NW	5	2.2	.....	7cs	1s	Calm	Calm	0.06	1.5	Cloudy	
Key West, Florida	30.12	765.0	30.15	765.8	83	28.3	75	SE	6	2.7	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.03	762.7	30.05	763.3	76	24.4	86	SW	14	6.3	.....	10cs	0	NW	.....	0	0	Cloudy	
Knoxville, Tennessee	29.12	739.6	30.08	764.0	76	24.4	77	W	7	3.1	.....	8cs	2ks	Calm	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.18	741.1	29.89	759.2	65	18.3	78	S	8	3.6	.....	0	0	.....	.....	0.45	11.4	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	69	20.6	85	W	3	1.3	.....	5k	0	S	.....	0.27	6.9	Fair	
Laredo, Texas	29.57	751.1	29.89	759.2	78	25.6	50	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.89	759.2	78	25.6	78	S	7	3.1	.....	10ck	0	W	.....	0.72	18.3	Cloudy	
Little Rock, Arkansas	29.77	756.1	30.12	765.0	79	26.1	70	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.56	750.8	29.90	759.4	62.6	11.4	79	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.43	747.5	29.95	760.7	85	29.4	61	SW	15	6.7	.....	10c;cs	0	sw;Calm	.....	0	0	Cloudy	
Lynchburg, Virginia	29.31	744.5	29.95	760.7	81	27.2	66	SW	4	1.8	.....	8c	1ck	NW	W	0	0	Fair	
Madison, Wisconsin	28.92	734.6	29.86	758.4	68	20.0	70	W	9	4.0	.....	2c	0	W	.....	0.04	16.3	Fair	
Marquette, Michigan	29.04	737.6	29.70	754.4	68	20.0	60	NW	12	5.4	.....	0	0	.....	.....	0.12	3.0	Clear	
Mason, Texas	28.41	721.6	30.10	764.5	76	24.4	69	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.78	756.4	30.10	764.5	84	28.9	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.16	740.7	29.85	758.2	69	20.6	70	NW	13	5.8	.....	5c	0	NW	.....	0.11	2.8	Fair	
Mobile, Alabama	30.15	765.8	30.19	766.8	78	25.6	78	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.94	760.5	30.16	766.1	81	27.2	70	S	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	28.96	735.6	29.89	759.2	77	25.0	77	SW	4	1.8	.....	.....	10ks	.....	Calm	0.13	3.3	Cloudy	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	48	8.9	100	NW	27	12.1	.....	.....	10n	.....	NW	0.33	8.4	Light rain	
Nashville, Tennessee	29.56	750.8	30.06	763.5	86	30.0	61	SW	6	2.7	.....	5cs	Haze	Calm	.....	0	0	Fair	
New Haven, Connecticut	29.75	755.6	29.86	758.4	68	20.0	95	S	10	4.5	.....	.....	10n	.....	Calm	0.61	15.5	Light rain	
New London, Connecticut	29.88	758.9	29.98	760.2	64	17.8	94	S	20	8.9	.....	.....	10n	.....	S	0.22	5.6	Light rain	
New Orleans, Louisiana	30.11	764.8	30.17	766.3	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.92	760.0	29.96	761.0	64	17.8	94	S	14	6.3	.....	.....	10n	.....	Calm	0.16	4.1	Heavy rain	
New York, New York	29.69	754.1	29.86	758.4	68	20.0	94	SW	10	4.5	.....	.....	10ks	.....	SW	0.35	8.9	Cloudy	
Norfolk, Virginia	29.94	760.5	29.99	761.7	76	24.4	77	SW	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy	
North Platte, Nebraska	27.07	687.6	29.54	750.3	66	18.9	95	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Olympia, Washington Ter.	29.90	759.4	29.94	760.5	46	7.8	96	NE	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
Omaha, Nebraska	28.80	731.5	29.82	757.4	78	25.6	78	SE	4	1.8	.....	5k	2s	W	Calm	0.03	0.8	Fair	
Oswego, New York	29.40	746.7	29.71	754.6	65	18.3	94	W	6	2.7	.....	.....	10s	.....	Calm	0.44	11.2	Cloudy	
Pembina, Dakota	28.91	734.3	29.71	754.6	59	15.0	82	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.81	757.2	29.86	758.4	72	22.2	90	SW	12	5.4	.....	.....	10s	.....	SW	0.42	10.7	Cloudy	
Phœnix, Arizona	28.69	728.7	30.37	771.4	85	29.4	44	W	1	0.4	.....	0	8ks	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	38	3.3	31	NE	6	2.7	.....	0	Haze	.....	.....	0	0	Hazy	
Ploche, Nevada	.....	.....	.....	.....	55	12.8	17	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.12	739.6	29.88	758.9	73	22.8	81	W	9	4.0	.....	.....	10n	.....	W	0.25	6.3	Light rain	
Port Huron, Michigan	29.11	739.4	29.73	755.1	71	21.7	90	W	9	4.0	.....	.....	10s	.....	W	0.64	16.3	Cloudy	
Portland, Maine	29.86	758.4	29.91	759.7	60	15.6	94	S	13	5.8	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Portland, Oregon	29.84	757.9	29.91	759.7	59.0	15.0	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.78	629.4	30.14	765.5	62	16.7	32	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	80	26.7	78	E	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.54	750.3	29.90	759.4	61	16.1	66	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.82	757.4	30.03	762.7	79	26.1	78	SE	18	8.0	.....	2c	0	Calm	.....	0	0	Clear	
Rochester, New York	29.13	739.9	29.70	754.4	74	23.3	86	W	13	5.8	.....	.....	10s	.....	W	1.06	27.0	Cloudy	
Roseburg, Oregon	29.35	745.5	29.91	759.7	53	11.7	90	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear	
Sacramento, California	29.83	757.7	29.92	760.0	52	11.1	86	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.42	747.3	29.96	761.0	80	26.7	70	W	12	5.4	.....	2ck	2s	W	Calm	0	0	Fair	
St. Marks, Florida	30.18	766.6	30.20	767.1	79	26.1	82	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.06	738.1	29.88	758.2	65	18.3	78	SW	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear	
Salt Lake City, Utah	25.57	649.5	29.90	759.4	68	20.0	34	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.36	745.7	29.91	759.7	78	25.6	78	E	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
San Diego, California	29.85	758.2	29.92	760.0	61	16.1	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.18	741.1	29.81	757.2	73	22.8	81	SW	18	8.0	.....	5k	5ks	W	W	0.56	14.2	Cloudy	
Sandy Hook, New Jersey	29.84	757.9	29.87	758.7	69	20.6	90	S	20	8.9	.....	.....	10s	.....	SW	0.21	5.3	Cloudy	
San Francisco, California	29.88	758.9	29.95	760.7	54	12.2	93	SW	4	1.8	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	65	18.3	62	NE	2	0.9	.....	8c	0	Calm	.....	0.11	2.8	Fair	
Savannah, Georgia	30.06	763.5	30.15	765.8	86	30.0	68	SW	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Shreveport, Louisiana	29.90	759.4	30.11	764.8	79	26.1	82	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.10	764.5	30.14	765.5	79	26.1	91	W	8	3.6	.....	0	8ks	.....	W	0	0	Cloudy	
Socorro, New Mexico	25.41	645.4	29.48	748.8	71	21.7	66	S	5	2.2	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Springfield, Ill	29.32	744.7	29.98	761.5	82	27.8	71	W	3	1.3	.....	2ck	8s	W	W	0	0	Cloudy	
Springfield, Massachusetts	29.73	755.1	29.85	758.2	66	18.9	95	S	10	4.5	.....	.....	10n	.....	S	0.52	13.2	Light rain	
Stockton, Texas	26.97	685.0	29.97	761.2	76	24.4	2	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.88	758.9	29.93	760.2	57	13.9	100	S	18	8.0	.....	.....	10n	.....	S	0.34	8.6	Light rain	
Toledo, Ohio	29.17	740.9	29.82	757.4	72	22.2	85	SW	12	5.4	.....	.....	10ks	.....	W	1.08	27.4	Cloudy	
Tucson, Arizona	27.48	698.0	30.02	762.5	81	27.2	55	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Umatilla, Oregon	29.54	750.3	30.02	762.5	56.0	13.3	57	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.68	738.6	29.86	758.4	79	26.1	70	S	7	3.1	.....	2k	0	S	.....	0	0	Clear	
Vicksburg, Mississippi	29.93	760.2	30.18	766.6	80	26.7	74	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.26	616.2	29.74	755.4	55	12.8	39	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.52	749.8	29.88	758.9	55.3	12.9	75	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.78	756.4	29.89	759.2	77	25.0	77	SW	6	2.7	.....	5c	0	NW	.....	0.08	2.0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	48	S	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	79	26.1	82	SW	7	3.1	.....	5k	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.52	648.2	29.88	758.9	59	15.0	28	SW	6	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.95	760.7	29.99	761.7	63	17.2	94	S	26	11.6	.....	.....	10ks	.....	SW	0.07	1.8	Threatening	
Yankton, Dakota	28.70	729.0	29.95	760.7	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.65	753.1	29.81	757.2	83	28.3	67	S	16	7.2	.....	8cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.25	641.6	.....	.....	65.0	18.3	82	Calm	.....	.....	0	2cs	6s;ks	.....	.....	0.26	6.6	.....	Thomas Herran.
Navassa, W. I.	30.01	762.2	30.09	764.3	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.03	762.7	76	24.4	91	SE	.....	.....	2	.....	10n	SE	.....	0.520	13.21	Rainy	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.30‡	769.6‡	.....	.....	80	26.7	87	NW	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.90‡	759.4‡	.....	.....	76.5	24.7	86	E	.....	.....	2	.....	10ks;k	.....	NE	Slight	Slight	.....	.....	Cloudy	
Adams. Pichilulnque Bay, L. C., Mex.	29.76‡	755.9‡	.....	.....	78	25.6	100	E	.....	.....	4	.....	10	.....	E	.....	.....	Smooth	.....	Cloudy.....	
Alliance. Southampton, Eng	29.52‡	749.8‡	.....	.....	57	13.9	87	SSW	.....	.....	5–6	.....	10	.....	W	.....	.....	.....	.....	Squally.....	
Ashuelot, Yokohama, Japan	29.90‡	759.4‡	.....	.....	77	25.0	95	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Mod'ate	E	Cloudy.....	
Colorado, New York, N. Y.	29.86‡	758.4‡	.....	.....	68	20.0	100	SW	14	6.3	.....	.....	10	.....	.....	0.47	11.9	.....	.....	Drizzling.....	
Constellation, N. 43° 56′, W. 68° 00′	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Constitution, League Isl. Navy Yard, Pa.	29.87‡	758.7‡	.....	.....	71	21.7	100	WSW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Enterprise, Copenhagen, Denmark	29.46‡	748.3‡	.....	.....	61	16.1	71	SW	.....	.....	2–4	.....	6	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin. Norfolk, Va.	30.02‡	762.5‡	.....	.....	75	23.9	86	SW	12	5.4	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Hartford. Montevideo, Uruguay	30.09‡	764.3‡	.....	.....	52	11.1	86	SSW	2	0.9	.....	.....	10?	.....	SW	0	0	.....	.....	Clear?.....	
Independence, Mare I'd. Navy Yard, Cal.	29.93‡	760.2‡	.....	.....	60	15.6	76	WSW	11	4.9	.....	.....	1?	.....	SW	.....	.....	.....	.....	Cloudy?.....	
Kearsarge, N. 38° 50′ W. 61° 20′	30.19‡	766.8‡	.....	.....	65	18.3	63	E	.....	.....	3–4	.....	8	.....	E	.....	.....	Smooth	.....	Fair	
Michigan, Erie, Pa.	29.73‡	755.1‡	.....	.....	73.5	23 1	90	SW	.....	.....	6	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy. Shanghai, China	29.72‡	754.9‡	.....	.....	82	27.8	83	SSE	.....	.....	5	.....	2	.....	SSE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan	29.90‡	759.4‡	.....	.....	80	26.7	82	ESE	.....	.....	2	.....	n	.....	.....	Very light	Very light	.....	.....	Overcast.....	
New Hampshire. Port Royal, S. C.	30.14‡	765.5‡	.....	.....	80	26.7	82	SSW	8	3.6	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Onward. Callao, Peru	†. 30.24‡	768.1‡	.....	.....	61	16.1	82	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	Long	W	Misty.....
Palos, Shanghai, China	29.71‡	754.6‡	.....	.....	80	26.7	91	SSE	.....	.....	4	.....	5	.....	SW	.....	.....	.....	.....	Hazy.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	75	23.9	86	SW	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	30.04‡	763.0‡	.....	.....	62	16.7	94	Calm	0	0	.....	.....	10	.....	.....	0	0	Smooth	SW	Cloudy.....	
Portsmouth. Newport, Rhode Island	30.00‡	762.0‡	.....	.....	64	17.8	89	S	.....	.....	5	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Powhatan, Vineyard Haven, Mass	30.01‡	762.2‡	.....	.....	65	18.3	89	SW	.....	.....	4	.....	10	.....	Calm	0.45	11.4	.....	.....	Raining	
Quinnebaug, Constantinople, Turkey	30.04‡	763.0‡	.....	.....	75	23.9	48	NE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 22° 43′, E 116° 59′	29.75‡	755.6‡	.....	.....	84	28.9	91	SSE	.....	.....	2	.....	8?	.....	Calm	.....	.....	Smooth	Calm	Clear?.....	
Richmond, Yokohama, Japan	29.92‡	760.0‡	.....	.....	78	25.6	82	E	.....	.....	2	.....	10	.....	E	0.02	0.5	Smooth	E	Cloudy.....	
Rio Bravo, Brownsville, Texas	30.01‡	762.2‡	.....	.....	80	26.7	100	SE	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md.	29.90‡	759.4‡	.....	.....	75	23.9	95	SW	.....	.....	1	.....	2	.....	NW	0.45	11.4	.....	.....	Fair.....	
Saratoga, Off Nevesink, N. J.	29.88‡	758.9‡	.....	.....	64	17.8	100	SW	.....	.....	4	.....	10	.....	SW	Heavy	Heavy	Rough	SW	D. clouds.....	
St. Louis, League Island, Pa	29.90‡	759.4‡	.....	.....	73	22.8	85	SW	14	6.3	.....	.....	10	.....	SW	0.5	13.	.....	.....	Cloudy.....	
Trenton, Antwerp, Belgium	29.64‡	752.8‡	.....	.....	66	18.9	54	WSW	.....	.....	2–4	.....	8	.....	SW	0.01	0.3	Smooth	.....	Cloudy.....	
Tuscarora, Mare Island Navy Yard, Cal	29.94‡	760.5‡	.....	.....	57	13.9	87	W	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Overcast.....	
Vandalia, Huntington, Long Isl., N. Y.	29.87‡	758.7‡	.....	.....	68	20.0	90	SSW	.....	.....	4	.....	10	.....	S	.....	.....	Smooth	.....	Drizzling	
Wabash, Boston, Mass	29.92‡	760.0‡	.....	.....	65	18.3	94	SW	15	6.7	.....	.....	10	.....	.....	0.19	4.8	.....	.....	Rainy.....	
Wyoming, Trieste, Austria	29.98‡	761.6‡	.....	.....	76	24.4	64	WSW	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	W	Clear.....	
Wachusett, Ben Lomond, Arkansas	30.05‡	763.3‡	.....	.....	80	26.7	82	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebur[illegible]
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		29.96‡	761.0‡	57	13.9		SE			1		2?		SE	Light			Cloudy	R. Lawless.
S. S. Georgia																			Capt. Connolly,
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 36° 46′, W. 125° 26′		29.84‡	757.9‡				NW			1		10		NW		Heavy	NW		R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 35° 27′, E. 139° 39′		30.01‡	762.2‡	72	22.2		SE			1		ks		SE	Slight	Smooth		Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalfe																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. P. Peiffer, N. 49° 42′, W. 18° 36′		29.94‡	760.5‡	62.0	16.7	66	WNW			8		8		NW	2 h'rs	Heavy	WNW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.53‡	750.0‡				SW			5		8		SW				Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.57‡	751.1‡	60	15.6	82	W			6		10		W	Heavy			Cloudy	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 27° 51′, W. 84° 10′		30.22‡	767.6‡	82	27.8	75	Calm	0	0			2k		Calm	0	Smooth		Clear.	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.17‡	766.3‡				ENE			5		2			0				N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

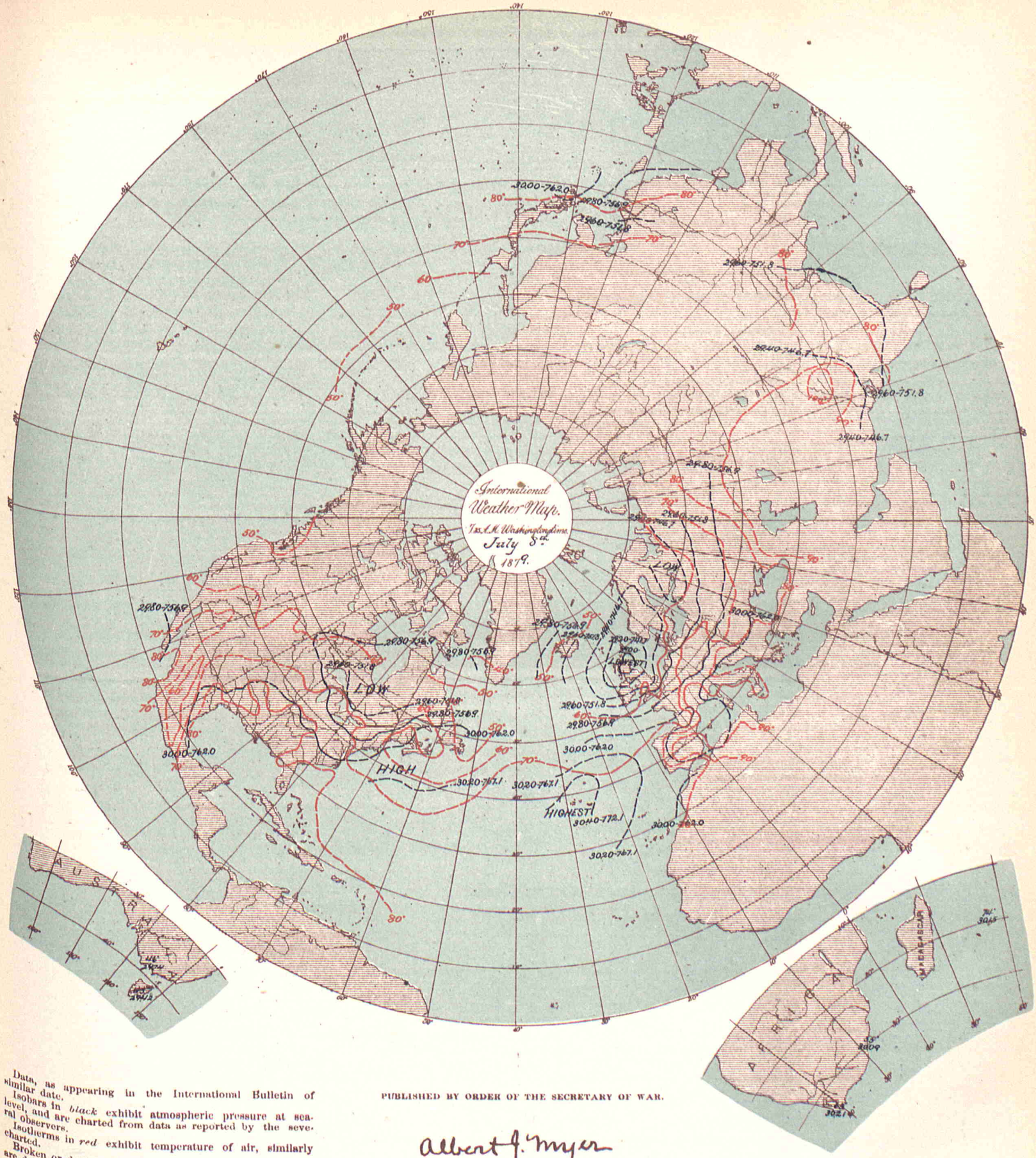
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d}.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 9, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.05	763.3	68.4	20.2	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.04	763.1	91.8	33.2	49	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.00	762.0	85.3	29.6	43	W	.....	.....	5	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	30.00	762.0	82.6	28.1	68	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.04	763.1	93.7	34.3	14	NNW	.....	.....	5	.....	0	.....	.....	0	0	Clear	
Geriville	.....	.....	30.04	762.9	96.1	35.6	28	W	.....	.....	7	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	30.09	764.2	77.2	25.1	42	S	.....	.....	5	.....	0	.....	.....	0	0	Clear	Brugniaux.
Biskra	.....	.....	30.01	762.2	103.3	39.6	25	SW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	29.95	760.6	105.3	40.7	25	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.22	742.3	29.74	755.4	82.9	28.3	32	SW	.....	.....	6	.....	2	.....	.....	0.988	25.1	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.98	736.1	29.72	755.0	66.9	19 4	89	WSW	.....	.....	1	.....	10	.....	.....	0.035	0.9	.....	Dr. Wierzbiski.
Eperies	28.85	732.7	29.68	753.8	77.0	25.0	70	S	.....	.....	2	c	0s	.....	.....	0.039	1.00	.....	Julius Mikolik.
Gratz	28.52	724.4	29.71	754.5	74.8	23.8	64	SW	.....	.....	3	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.48	723.4	29.77	756.2	84.2	29.0	54	SSE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.51	724.1	29.83	757.7	66.6	19.6	95	SW	.....	.....	2	.....	10	.....	.....	0.472	12.0	.....	Prof. C. Wagner.
Lemberg	28.75	730.2	29.67	753.7	78.3	25.7	48	S	.....	.....	3	.....	6	.....	.....	0.256	6.5	.....	Dr. T Stanecki.
Pola	29.71	754.5	29.81	757.2	82.0	27.8	48	SSE	.....	.....	3	.....	8	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.37	746.0	29.81	757.1	84.1	28.4	39	SE	.....	.....	3	.....	3	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.61	749.5	29.77	756.1	85.6	29.8	40	S	.....	.....	2	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.72	754.9	29.82	757.5	78.8	26.0	48	SW	.....	.....	1	.....	9	.....	.....	0.102	2.6	Thunder-storm.	P. Busin.
Vienna	29.11	739.4	29.85	758.1	63.1	17.3	91	WNW	.....	.....	1	.....	10	.....	.....	0.031	0.8	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.27	743.4	29.37	746.0	54.1	12.3	.....	NNE	15	6.7	.....	.....	9	.....	.....	0.080	2.03	Overcast	W. Boswell.
Ardrossan	29.38	746.2	29.39	746.5	68	14.4	.....	WNW	.....	.....	1	.....	7	.....	.....	.....	.....	Showery	Wm.McNeil &G.Carrick
Armagh, Observatory	29.36	745.7	29.58	751.3	54.0	12.2	.....	NW	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.42	747.3	52.8	11.6	.....	SW	47	21.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.39	746.5	52.4	11.3	.....	W	42	18.8	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	28.98	736.1	29.37	746.0	58.1	14.5	.....	NW	.....	.....	3	.....	5	.....	.....	0.21	5.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.05	762.7	30.06	763.5	84	28.9	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.34	745.2	29.44	747.8	57.0	13.9	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	H. Todd.
Cardington	.....	.....	29.45	748.0	59.0	15.0	.....	W	.....	.....	7	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.37	746.0	29.50	749.3	56.6	13.7	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	J. Carmoll, Sapper. R. E.
Donaghadee	29.45	748.0	29.49	749.0	56	13.3	.....	NNW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.50	749.3	29.54	750.3	59	15.0	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.58	751.3	29.80	756.9	59.5	15.3	.....	WNW	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy	The Staff.
Fort Napier (Natal)	27.85	707.4	30.13	765.3	62.0	16.7	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	85	29.4	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.72	754.9	56	13.3	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	78.4	25.8	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.19	741.4	29.40	746.7	58.9	14.9	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean. [O.
Great Yarmouth	29.37	746.0	29.38	746.2	57	13.9	.....	WSW	.....	.....	5	.....	6	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.34	745.2	29.51	749.5	57.7	14.3	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.56	750.8	29.77	756.1	58	14.4	.....	WNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.76	755.9	29.88	758.9	63	17.2	.....	NW	.....	.....	7	1c	.....	.....	.....	0.04	1.0	Fine	M. P. Moyle.
Holyhead	29.52	749.8	29.55	750.6	55	12.8	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.53	750.0	29.82	757.4	57.9	14.4	.....	W	.....	.....	8	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.46	749.0	29.52	749.8	58.0	14.4	.....	W	23	10.3	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.20	741.7	29.44	747.8	55.5	13.1	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	79.8	26.6	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.33	745.0	29.43	747.5	54	12.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.12	765.0	83.5	28.6	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.23	742.4	29.42	747.3	54.7	12.6	.....	NW	.....	.....	6	.....	10d	.....	W	0.10‡	2.64	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.95	735.3	29.46	748.3	55.9	13.3	.....	WSW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.54	750.3	57	13.9	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.66	753.4	29.73	755.1	62.4	16.9	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	28.29	718.6	29.74	755.4	52.4	11.3	.....	NW	.....	.....	5	.....	9	.....	.....	.....	.....	Fine	W. H. Tooker.
*Roche's Point	29.71	754.6	29.82	757.4	58	14.4	.....	NW	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.60	749.3	29.66	753.4	55	12.8	.....	W	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.47	748.5	54.1	12.3	.....	N	23	10.3	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev O.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.90	759.4	29.96	761.0	85.8	29.9	.....	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.12	739.6	29.39	746.5	56.8	13.8	.....	W	.....	.....	6	.....	10	.....	.....	0.16	4.1	Overcast	W. F. Cooper.
Silloth Rectory	29.34	745.2	29.37	746.0	61.7	16.5	67	W	.....	.....	3	.....	8	.....	.....	0.183	4.65	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.38	746.2	56.7	13.7	.....	SW	24	10.7	.....	.....	10	.....	.....	Blank	Blank	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.34	745.2	29.55	750.6	55.4	13.0	.....	SW	.....	.....	4–5	.....	9	.....	.....	.....	.....	Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.82	757.4	29.83	757.7	60	15.6	.....	W	.....	.....	9	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.88	758.9	56.5	13.6	.....	WNW	28	12.5	.....	.....	7	.....	.....	.....	.....	Squally	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.26	768.6	30.30	769.6	61.5	16.4	70	NW	1.4	0.6	.....	8	8	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.54	750.3	44	6.7	79	SW	.....	.....	2	.....	7kn	.....	.....	0.05	1.3	Cloudy	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.41	747.0	57.0	13.9	.....	SE	.....	.....	2	.....	10k	NW	.....	0.53	13.5	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.8	78.5	23.1	65	ENE	9.5	4.2	.....	2	2	WSW	E	0.55	14.0	Fine	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.87	758.7	47.0	8.3	83	WSW	18	8.0	.....	.....	10	.....	.....	0.08	2.0	Rain-squalls	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.52	749.8	53	11.7	.....	N	.....	.....	4	5	5	N	.....	0	0	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.47	748.5	52	11.1	.....	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 35′. E. 28° 35′	.....	.....	29.95‡	760.7‡	76.1	24.5	NE	.....	.....	4	0	.....	.....	.....	Misty	Capt. W. J. L. Wharton.
Agnes Wilson, N. 37° 25′, W. 68° 10′	.....	.....	29.69	754.1	78	25.6	SW	.....	.....	5	9	.....	5	SW	Overcast	Capt. H. W. Dyke.
Astarte, N. 41° 55′, W. 34° 40′ *	.....	.....	30.23‡	767.8‡	73	22.8	S	.....	.....	5	10	.....	.....	.....	Drizzling	Capt. Parson.
Theophane, S. 31° 45′, E. 10° 00′	.....	.....	30.37‡	771.4‡	60.1	15.6	S	.....	.....	3	6	.....	.....	.....	Showery	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.27	667.2	29.99	761.7	68.0	20.0	81	SE	.....	.....	2	3ck	.....	.....	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.38	746.3	29.43	747.5	62.4	16.9	61	SSW	.....	.....	4	.....	3?	.....	.....	.....	.....	.....
Fanöe	29.33	744.9	29.35	745.4	58.3	14.6	76	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Raining.
Godthaab (Greenland)	29.95	760.8	30.00	761.9	43.5	6.4	87	S	.....	.....	5	.....	10	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.98	761.5	30.02	762.6	50.0	10.0	76	E	.....	.....	2	.....	0	.....	.....	.....	.....	Raining.
Thorshavn (Faröe)	29.65	753.2	29.69	754.1	55.6	13.1	66	N	.....	.....	2	.....	3	.....	.....	.....	.....	.....
Vestervig	29.20	741.7	29.31	744.5	58.6	14.8	94	SSW	.....	.....	4	.....	6	.....	.....	.....	.....	Thunder-storm.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.4	29.86	758.4	61.2	16.2	64	SW	.....	.....	3	.....	8	.....	SW	0.146	3.7	Very cloudy	Colignon, Director.
Amiens, Normal School	29.54	750.4	29.66	753.0	62.6	17	70	W	.....	.....	3	.....	5	.....	E	0.213	5.4	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.37	746.0	29.62	752.4	57.4	14.1	80	WNW	.....	.....	6	.....	.....	.....	NW	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.89	759.1	29.97	761.1	73.9	23.3	46	WNW	.....	.....	2	.....	10	.....	WNW	0.071	1.8	Raining	Giraud, Director.
Aar-sur-Seine	29.26	743.1	29.80	756.9	62.6	17.0	58	W	.....	.....	3	.....	8	.....	W	0.094	2.4	Raining	G. Saillard, Director.
Beauvais, Normal School	29.44	747.8	29.71	754.5	60.3	15.7	74	W	.....	.....	2	.....	8	.....	W	0.089	2.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.01	736.9	29.89	759.2	62.6	17	72	S	.....	.....	2	.....	5	.....	SW	0.484	12.3	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	739.8	30.05	763.2	63.3	17.4	70	SW	.....	.....	3	.....	8kn	SW	SW	0.24	6.	Very cloudy	Marlot, Director.
Bourges, Normal School	29.33	745.0	29.87	758.8	60.4	15.8	78	NW	.....	.....	5	.....	5kn	NW	NW	.....	.....	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.65	753.1	29.89	759.3	63.0	17.2	66	WNW	.....	.....	3	.....	8	.....	W	0.039	1.00	Squally	Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.65	753.1	30.05	763.3	71.4	21.9	58	WNW	.....	.....	5	.....	5	WNW	WNW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.69	754.1	29.76	755.9	58.6	14.8	89	W	.....	.....	5	.....	.....	.....	W	0	0	.....	Lair, Director.
Chartres, Normal School	29.21	742.0	29.77	756.1	58.1	14.5	96	NW	.....	.....	3	.....	8	.....	SE	0.08	2.	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.43	747.6	29.74	755.4	61.5	16.4	66	SW	.....	.....	3	.....	2	SW	SW	0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.7	29.94	760.5	62.2	16.8	61	W	.....	.....	1	.....	10	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School	28.91	734.2	29.75	755.6	61.0	16.1	61	SW	.....	.....	3	.....	8ckn	SW	SW	0.076	1.9	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.85	732.9	30.00	761.9	70.5	21.4	37	NW	.....	.....	5	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.20	741.7	29.95	760.7	66.6	19.2	54	NW	.....	.....	1	.....	5n	.....	SW	0.559	14.2	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.83	757.7	30.04	763.1	58.1	14.5	86	SW	.....	.....	5	.....	10	.....	.....	0.118	3.0	Raining	Mouillot, Director.
Le Mans, Normal School	29.56	750.7	29.86	758.5	61.7	16.5	66	W	.....	.....	5	.....	5	.....	W	0.067	1.7	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.04	737.7	29.94	760.5	62.1	16.7	67	S	.....	.....	3	.....	2s	W	W	0.063	1.60	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.86	758.5	29.96	761.0	61.5	16.4	66	W	.....	.....	6	.....	.....	.....	WSW	0.056	1.4	.....	Lt.T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.66	753.4	29.93	760.1	74.1	23.4	52	WNW	.....	.....	5-6	.....	3	.....	.....	0.604	0.10	.....	E. Stephan, Director.
Mirecourt, Normal School	28.80	731.4	29.83	757.7	55.4	13	82	SW	.....	.....	5	.....	2	.....	SW	0.189	4.8	Slightly cl'dy	Barbier, Director.
Mont-Louis	24.90	632.4	30.21	767.4	54.5	12.5	65	NW	23.0	10.3	.....	.....	4	.....	W	0	0	.....	G. Clave.
Nismes, Normal School	29.78	756.3	29.99	761.8	75.2	24	35	NW	.....	.....	3	.....	5	.....	W	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.48	748.8	55.2	12.9	79	WNW	.....	.....	3	.....	10	.....	W	0.028	0.7	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.68	574.8	.....	.....	38.1	3.4	.....	W	.....	.....	2	.....	9	.....	.....	0	0	Covered	Gen'l de Nansouty.
Perpignan	29.96	761.0	30.03	762.7	68.4	20.2	48	NW	20.6	9.2	.....	.....	8	NW	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.00	635.0	.....	.....	38.8	3.8	100	SW	.....	.....	8	.....	.....	.....	.....	0.154	3.9	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.02	762.5	30.05	763.3	65.8	18.8	62	W	.....	.....	3	.....	5	W	W	0.16	4.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.64	752.8	29.72	755.0	62.6	17.0	55	WSW	.....	.....	6	.....	8	.....	W	0.260	6.6	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.82	757.4	29.85	758.1	60.8	16.0	69	W	.....	.....	5	.....	8	WSW	WSW	0.104	2.65	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.69	751.0	29.77	756.1	59.4	15.2	65	W	.....	.....	3	.....	10	WNW	W	0.188	3.5	Covered	E. Renou, Director.
Tarbes, Normal School	29.06	738.2	30.13	765.2	66.2	19	81	NW	.....	.....	3	.....	5	W	NW	0	0	Cloudy	T. Huguet, Director.
Toulouse, Observatory	29.42	747.2	30.14	765.6	65.1	18.4	60	W	.....	.....	5	.....	8	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.70	754.4	29.90	759.4	62.6	17.0	57	WNW	.....	.....	7	.....	7	.....	WNW	0.106	2.7	.....	Cousin-Marquet.
Versailles, Observatory	29.27	743.5	29.76	756.0	56.5	13.6	84	W	.....	.....	5	.....	8	.....	.....	0.126	3.19	Very cloudy	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.24	742.7	29.94	760.5	61.0	16.1	93	WNW	.....	.....	2	.....	5	.....	E	0.146	3.7	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.4	29.93	760.1	77.7	25.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lyons Obs'y (Park Station)	29.33	744.9	29.93	760.2	70.7	21.5	51	SSW	.....	.....	1	.....	5	.....	SW	0.35	9.	.....	L'Abbé Marchésl.
Nice	.....	.....	29.80	756.8	77.7	25.4	60	WSW	.....	.....	7	.....	5	.....	.....	0.209	5.3	Cloudy	Ch. André, Director.
Zi-Ka-Wei (near Shanghai)	29.72	754.8	29.74	755.4	80.4	26.9	92	S	2.9	1.3	.....	.....	9k	.....	.....	0	0	Fair	Dr. A. Nieszn, Jr.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.110	2.8	Covered	Marc Dechevrens
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following, Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m.,* or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.93	734.8	29.76	756.0	62.2	16.8	66	W	.....	.....	6	.....	4	W	....	0.118	3.0	Raining	Prof. Dr. Hoh.
Berlin	29.43	747.6	29.60	751.8	67.1	19.5	65	SW	.....	.....	4	.....	9	.....	.....	0.150	3.8	....	Prof. Dr. Arndt.
Breslau	29.19	741.5	29.72	754.8	67.6	19.8	50	SW	.....	.....	3	.....	10	.....	.....	0.079	2.01	.....	Royal University Obs'ty.
Carlsruhe	29.31	744.5	29.13	755.1	61.9	16.6	71	SW	.....	.....	4	.....	10	SW	.....	0.016	0.4	Thunder-storm..	Albert Senx.
Cassel	29.04	737.7	29.65	753.0	57.6	14.2	80	SW	.....	.....	3	.....	8	W	....	0.463	11.75	.....	Dr. H. Möhl.
Crefeld	29.37	746.0	29.53	750.1	62.2	16.8	72	SW	.....	.....	6	.....	7kn	.....	.....	0.20	5.	Raining... ...	Director Lose.
Emden	.....	.....	29.43	747.6	55.6	13.1	83	SW	.....	.....	3	.....	10	.....	.....	0.094	2.4	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.31	744.5	29.67	753.7	67.3	19.6	.....	WSW	.....	.....	4	.....	5	.....	.....	0.083	2.1	.....	Physical Society.
Freienwalde on the Oder	29.55	750.6	29.59	751.6	65.7	18.7	63	SSW	.....	.....	5	....	10ks	SSW	.....	0.043	1.1	Raining	Dr. Assmann.
Friedrichshafen	28.40	721.4	29.50	756.9	64.0	17.8	64	SSW	.....	.....	5	.....	5	SW	.....	0.028	0.7	....	M. Wilhelm.
Hamburg	29.42	747.3	29.49	749.1	58.1	14.5	84	WSW	.....	.....	4	.....	8kn	.....	.....	0.110	2.8	Rain-squalls	Captain F. Hegemann.
Kiel	29.42	747.3	29.44	747.7	60.8	16.0	78	SSW	.....	.....	2	.....	7	.....	.....	0.044	1.12	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.54	750.4	29.62	752.4	65.8	18.8	50	W	.....	.....	2	.....	6	.....	.....	0.004	0.1	.....	Prof. E. Luther
Köslin	.....	.....	29.52	749.8	66.2	19.0	.....	W	.....	.....	2	.....	3	.....	.....	0.118	3.0	.....	H. Müller.
Leipsic Observatory	29.26	743.1	29.66	753.4	64.8	18.2	60	WSW	.....	.....	4	.....	9	WSW	.....	0.067	1.7	.....	Prof. Bruhns, Privy Counselor.
Memel	29.55	750.5	29.60	751.7	64.0	17.8	63	SW	.....	.....	3	.....	1ks	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.03	711.9	29.88	758.9	57.6	14.2	68	SW	.....	.....	2	.....	10	SW	.....	0.429	10.9	.....	Dr. C. Lang.
Neufahrwasser	29.60	751.9	29.62	752.3	66.6	19.2	72	SSW	.....	.....	2	.....	8	.....	.....	0	0	....	A. Lothes.
Posen	29.41	746.9	29.68	753.9	69.1	20.6	58	W	.....	.....	6	.....	10	.....	.....	0.236	6.0	.....	Dr. Magener.
Strassburg (in Alsace)	29.26	743.2	29.80	756.9	60.6	15.9	62	SW	.....	.....	4	.....	9	W	.....	0.178	4.40	Raining	Imp. University Observatory.
Stuttgart	28.83	732.3	29.76	755.9	56.3	13.5	76	W	.....	.....	2	.....	7	W	.....	0.287	7.3	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.29	718.6	29.76	756.0	61.5	16.4	69	SW	11	5	.....	.....	8ck	.....	W	0.591	15.0	Hazy	T. Hopfner.
Wustrow	29.48	748.7	29.50	749.3	63.7	17.6	66	SW	.....	.....	4	.....	5cs	.....	.....	0.071	1.8	.....	E. Schultz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.8	29.97	761.3	87.4	30.8	.....	NE	.....	.....	2.0	....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.6	29.44	747.8	84.2	29.0	75	W	.....	.....	.....	.....	10	E	WSW	0	0	Threatening	
Deesa	28.99	736.4	29.45	748.1	89.1	31.7	57	SW	27.5	12.3	.....	.....	1	W	.....	0	0	D. clouds....	
Bombay	29.62	752.4	29.66	753.4	82.9	28.3	84	SW	16.0	7.2	.....	.....	10	.....	WSW	0.01	0.3	Overcast.....	
Poona	27.82	706.6	29.66	753.4	78.0	25.6	68	WSW	.....	.....	.....	.....	9	.....	WSW	0	0	D. clouds.....	
Lahore	28.56	725.3	29.26	743.1	101.2	38.4	39	E	4.1	1.8	.....	.....	6	.....	.....	0	0	D. clouds....	
Belgaum	27.25	691.6	29.78	756.4	71.6	22.0	85	W	16.0	7.2	.....	.....	10	W	W	0.07	1.8	Showery.....	
Roorkee	28.49	723.7	29.38	746.1	82.2	27.9	86	Calm	3.0	1.3	.....	.....	6	.....	....	3.30	83.8	.....	
Agra	28.85	732.8	29.41	746.9	82.7	28.2	87	Calm	.....	.....	.....	.....	10	.....	S	0	0	.....	
Nagpur	28.50	723.8	29.52	749.8	84.7	29.3	62	W	4.3	1.9	.....	.....	9	.....	NE	0	0	Gloomy.....	
Lucknow	29.03	737.4	29.40	746.9	80.3	26.8	96	WNW	3.0	1.3	.....	.....	10	.....	.....	0.47	11.9	Raining.....	
Allahabad	29.15	740.4	29.46	748.2	84.0	28.9	85	Calm	4.8	2.2	.....	.....	10	.....	W	0.16	4.1	Overcast....	
Patna	29.30	744.2	29.48	748.8	80.1	26.7	94	SSE	0.2	0.1	.....	.....	10	SSE	SSE	1.28	32.5	Overcast.....	
Hazaribagh	27.51	695.7	29.60	749.3	77.3	25.2	90	WSW	3.9	1.7	.....	.....	10	.....	W	1.34	34.0	Raining.....	
Cuttack	29.49	749.1	29.57	751.1	83.7	28.7	79	SW	4.0	1.8	.....	.....	7	.....	.....	0	0	Thunder....	
Calcutta (Alipore)	29.50	749.4	29.52	749.9	79.9	26.6	91	SSW	8.0	3.6	.....	.....	10	.....	W	.....	.....	Drizzling....	
Goalpara	29.13	739.8	29.51	749.6	79.3	26.3	93	ESE	11.0	4.9	.....	.....	10	.....	.....	2.78	70.6	Raining.....	
Chittagong	29.53	750.1	29.62	752.5	78.6	25.9	93	ESE	2.5	1.1	.....	.....	10	.....	.....	0.03	0.8	Gloomy.....	
Sibsagar	29.24	742.6	29.57	751.0	80.1	26.7	93	SE	3.3	1.5	.....	.....	10	SW	SW	4.00	101.6	Overcast.....	
Jubbulpore	28.17	715.4	29.52	749.8	79.8	26.6	79	W	3.7	1.6	.....	.....	10	.....	NE	0.09	2.3	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.41	747.1	29.81	757.1	72 3	22.4	67	SE	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.26	743.1	29.75	755.7	72.0	22.2	76	E	.....	.....	2	.....	9	SW	.....	0.787	20.0	.....	Prof. Schiaparelli.
Padua	29.63	752.7	29.74	755.4	70.2	26.2	48	SSW	18.6	8.3	.....	.....	10	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.83	732.3	29.70	754.3	73.8	23.2	63	SE	4.0	2.2	.....	.....	2	NW	.....	0.169	4.3	.....	Prof. P. F. Denza.
Genoa	29.46	753.3	29.84	758.0	68.9	20.5	79	SE	13.7	6.1	.....	.....	10	SE	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Mondovi	27.85	707.3	29.68	753.9	75.9	24.4	49	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.76	755.9	29.81	757.1	85.3	29.6	38	SW	12.5	5.6	.....	.....	6	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.62	752.4	29.87	758.7	85.1	29.5	49	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.81	757.1	29.89	759.1	76.3	24.6	68	S	18.1	8.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.8	29.97	761.1	80.4	26.9	48	S	12.5	5.6	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.75	755.6	29.99	761.8	82.0	27.8	28	WSW	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.13	739.9	29.97	761.1	87.6	30.9	57	NW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.76	756.0	29.95	760.7	77.2	25.1	70	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Facinotti.
Palermo	29.77	756.2	30.02	762.5	78.1	25.6	55	ENE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.90	759.5	29.98	761.4	85.5	29.7	34	SSW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.4	30.06	763.5	79.3	26.3	56	SW	1.3	0.6	.....	.....	0	.....	.....	0.039	1.0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	77.7	25.4	88	SSE	1.8	0.8	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.97	761.2	78.8	26.0	80	S	6.8	3.1	.....	.....	1cs	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.86	758.4	29.92	759.9	71.6	22.0	93	E	2.0	0.9	.....	.....	10s	.....	.....	0.010	0.25	Cloudy	The Staff.
Wakayama	29.90	759.4	29.95	760.7	78.7	25.9	76	SSE	2.5	1.1	.....	.....	1s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.7	30.19	766.8	66.3	19.6	78	Calm	.....	.....	0	.....	8	.....	SE	1.50	38.0	Cloudy	Prof. L. Perez.
Leon	24.60	622.4	30.17	766.2	62.1	16.7	86	SW	.....	.....	1	7c	2ks	NE	.....	0.35	9.0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.8	30.14	765.5	55.9	13.3	87	NW	2.2	1.0	.....	1c	6k	E	E	0.11	2.9	Cloudy	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	61.3	16.3	86	Calm	.....	.....	0	0	10km	.....	.....	0.30	7.6	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	30.01	762.3	30.02	762.6	77.0	25.0	93	W	.....	.....	1	0	9	.....	E	2.07	52.5	Raining	Prof. M. M. Chàsaro.
San Luis Potosi	24.26	616.3	30.26	768.5	57.0	13.9	60	E	.....	.....	1	.....	10	.....	E	0.20	5.0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	22.61	574.3	30.19	766.9	56.5	13.6	85	E	.....	.....	1	8c	2k	SE	SE	Inap.	Inap	Very cloudy	Prof. J. Rossell.
Puebla (Catholic Institute)	23.48	596.5	30.25	768.3	55.8	13.2	84	Calm	0	0	.....	.....	10k	.....	SE	0.02	0.5	Covered	J. C. Castrillon.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Spina
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	29.74	755.3	30.01	762.3	78.1	25.6	85	NE	.....	.....	1	7c	2k	.....	.....	0	0	Cloudy	Antonio Guerra y Guerra. F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.50	749.2	29.50	749.2	61.5	16.4	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.028	0.7	.....	
Groningen	.....	.....	.....	.....	59.0	15.0	.....	SW	.....	.....	3	.....	.....	.....	.....	0.409	10.4	.....	
Helder	29.38	746.3	29.38	746.3	57.2	14.0	.....	WSW	.....	.....	5	.....	.....	.....	.....	0.161	4.1	.....	
Hellevoetsluis	29.46	748.3	29.46	748.3	60.3	15.7	71	WSW	.....	.....	7	.....	.....	.....	.....	0.441	11.2	.....	
Utrecht	29.82	757.5	29.48	748.7	57.2	14.0	90	WSW	.....	.....	5	.....	5	.....	.....	0.433	11.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.22	742.3	29.28	743.7	64.4	18.0	53	NW	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	
Brönno	29.31	744.5	29.35	745.5	55.4	13.0	77	N	11	5	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.21	741.8	29.35	745.4	63.0	17.2	57	SW	4	2	.....	.....	10	.....	.....	0.799	20.3	.....	
Tromsö	29.29	743.9	29.33	745.0	55.4	13.0	62	NE	20	9	.....	.....	7	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.26	768.5	30.45	773.3	71.2	21.8	77	ESE	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.14	740.1	30.15	765.8	80.6	27.0	25	WNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.00	762.1	30.09	764.3	78.8	26.0	43	SW	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.87	758.7	30.23	767.7	69.4	20.8	43	N	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.37	771.3	30.44	773.1	76.9	21.6	70	ENE	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 1° 12', E. 8° 27'	2	SSW	Blue sky	H. C. e Athayde.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	1	NW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island	2	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira				L. Ribeiro de Costa, Com'd't.
Sado				
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	SW	Raining. 9 hr's rain-fall.	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.28	743.6	29.68	753.9	71.1	21.7	70	SW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.23	742.4	29.68	752.7	64.2	17.9	72	S	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.27	743.5	29.51	749.6	62.8	17.1	74	SW	4	2	.....	.....	8kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.44	747.8	29.46	748.2	57.9	14.4	74	NW	18	8	.....	.....	2k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.17	741.0	29.77	756.2	79.7	26.5	49	SW	9	4	.....	.....	3k	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.93	760.2	30.00	762.0	82.4	28.0	57	SSW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.07	763.7	30.09	764.2	77.9	25.5	55	ENE	2	1	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.11	739.3	29 63	752.6	68.4	20.2	66	S	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.71	754.7	29.91	759.6	83.3	28.5	31	SW	22	10	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.36	745.7	29.38	746.2	58.1	14.5	69	S	9	4	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.58	725.8	29.93	760.1	78.4	25.8	49	NW	45	20	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.08	763.9	29.99	761.8	76.5	24.7	53	NNE	7	3	.....	.....	10s	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.36	745.7	29.80	757.0	76.6	24.8	44	W	4	2	.....	.....	7kn	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.42	747.2	29.68	753.8	69.3	20.7	64	ESE	4	2	.....	.....	4	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.80	731.4	29.71	754.6	74.1	23.4	48	E	9	4	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.41	747.1	29.68	752.6	91.0	32.8	41	NNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	27.97	710.4	29.39	746.5	95.0	35.0	51	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.19	741.4	29.67	753.5	69.3	20.7	68	NW	0	0	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.34	745.2	29.62	752.3	65.5	18.6	92	NW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Marks.
Irkutsk																			
Peking (China)	29.58	751.3	29.72	754.9	76.8	24.9	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.77	756.2	29.87	758.7	63.7	17.6	82	S	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.8	74.8	23.8	57	SSE	2.9	1.28	.....	.....	4	.....	.....	0	0	Hazy	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.17	766.3	30.19	766.7	69.1	20.6	59	NW	4.6	2.07	.....	1	8	N	.....	0.008	0.2	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.8	.....	.....	68.0	20.6	47	SW	7.0	3.14	.....	0	3	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.86	707.6	29.94	760.5	85.6	29.8	20	NW	8.9	4.00	.....	1	0	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	761.0	90.9	32.7	44	ENE	5.8	2.61	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.36	745.8	30.25	768.3	65.3	18.5	59	NW	10.5	4.7	.....	.....	9	.....	.....	0.016	0.4	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.06	763.5	30.12	765.1	82.2	27.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.88	759.0	84.2	29.0	81	NE	0	0	.....	.....	6ks	E	.....	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.5	30.12	765.0	77.5	25.3	54	WNW	15.2	6.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	30.02	762.4	30.11	764.7	84.6	29.2	68	E	10.6	4.73	.....	3ck	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.24	742.8	29.28	743.8	56.1	13.4	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.28	743.8	29.34	745.1	60.8	16.0	69	W	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	
Hernosand	29.28	743.7	29.33	745.0	61.2	16.2	79	SW	.....	.....	2	.....	10	.....	.....	0.198	3.5	.....	
Stockholm	29.25	742.9	29.43	747.4	63.5	17.5	68	SSW	.....	.....	4	.....	8	.....	.....	0.193	4.9	.....	
Wisby	29.42	747.2	29.48	748.7	63.7	17.6	67	WSW	.....	.....	6	.....	5	.....	.....	0.051	1.3	.....	
Sub-Series.																			
Upsala	29.30	744.3	29.39	746.5	65.5	18.6	61	SW	10.3	4.6	.....	.....	2	....	SW	0	0	....	Nils Ekholm.
Naval Series.																			
Corvette Saga.																			
N. 36° 49', W. 0° 38'	.....	.....	30.26	768.5	63.5	17.5	.....	NNE	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.52	724.5	29.92	760.0	.....	17.4	58	SSW	.....	.....	4	.....	10	.....	.....	0.117	4.5	Raining	The Observatory.
Zurich	28.22	716.9	29.82	757.5	65.8	18.8	68	W	.....	.....	6	.....	4	.....	SW	0.189	4.8	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −3.0 mm.; Thermometer,—5.0 Cent.; Relative Humidity, +5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.0	78.1	25.6	49	ENE	14	6.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.5	86.2	30.1	.....	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.71	754 6	29.82	757.4	85.1	29.5	59	WNW	.....	.....	2	.....	78	.....	SE	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.46	748.3	29.52	749.8	61	16.1	91	S	2	0.9	.....	2k	8ks	NW	NW	0.21	5.3	Cloudy	G. A. Ball.
Charlottetown, P. E. Island	29.53	750.0	29.58	751.3	60	15.6	93	S	15	6.7	.....	.....	10n	.....	.....	0.180	4.57	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.78	756.4	66.6	19.2	71	W	.....	.....	1	0	1s	.....	.....	0.013	0.33	Clear	James Smith, M. A.
Dalhousie, N. B	29.36	745.7	29.52	749.8	59.7	15.4	100	Calm	.....	.....	0	.....	10n	.....	.....	0.10	2.5	Foggy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.51	749.5	29.54	750.3	51	10.6	100	S	30	13.4	.....	5k	8s	SW	NW	0.69	17.5	Clearing	J. McWilliams.
Fredericton, N. B	29.52	749.8	29.58	751.3	61.2	16.2	87	W	4	1.8	.....	.....	Mist	.....	.....	0	0	Foggy	Prof. Harrison.
*Fort Garry, Manitoba	28.98	736.1	29.77	756.1	66	18.9	79	N	4	1.8	.....	0	Haze	.....	.....	Inap.	Inap.	Clear	James Stewart.
Granton, Ontario	28.86	732.8	29.91	759.7	67	19.4	84	Calm	.....	.....	0	2cs	0	.....	.....	0	0	Fair	James Grant.
*Halifax, N. S	29.52	749.8	29.63	752.6	59	15.0	98	S	6	2.7	.....	.....	10n	.....	.....	1.578	40.08	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.57	751.1	29.92	760.0	67.7	19.8	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.51	749.5	29.83	757.7	68	20.0	74	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.75	755.6	29.78	756.4	60.2	15.7	79	S	13	5.8	.....	.....	10n	.....	Calm	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.58	751.3	29.77	756.1	66	18.9	68	NW	3	1.3	.....	0	0	.....	.....	0.14	3.6	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740.7	29.83	757.7	66	18.9	76	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.85	758.2	72.5	22.5	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.94	760.5	66	18.9	89	W	6	2.7	.....	5ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.67	753.6	29.72	754.9	56.5	13.6	.....	S	37	16.5	.....	.....	.....	.....	.....	1.10	27.9	Squally	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.95	760.7	67	19.4	84	NW	2	0.9	.....	5ck	0	W	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.40	746.7	29.71	754.6	61	16.1	77	N	.....	.....	1	0	0	.....	.....	0.15	3.8	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.37	746.0	29.81	757.2	66	18.9	74	NW	6	2.7	.....	Haze	0	.....	.....	Inap.	Inap.	Hazy	W. H. McIntyre.
St. Andrews, N. B	29.51	749.5	29.56	750.8	61	16.1	92	N	.....	.....	1	.....	10n	.....	.....	0.33	8.4	Cloudy	Dr. Gove.
St. John, N. B	29.42	747.3	29.58	751.3	56	13.3	100	Calm	0	0	.....	.....	10s	.....	.....	0.03	0.8	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.25	742.9	29.93	760.2	70	21.1	71	S	8	3.6	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.12	739.6	29.85	758.2	73	22.8	63	NW	5	2.2	.....	2k	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.69	728.7	29.94	760.5	61.3	16.3	93	SW	5	2.2	.....	2ck;cs	0	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.76	755.9	29.80	756.9	57	13.9	89	S	10	4.5	.....	.....	10n	.....	.....	0.01	0.3	Light rain	T. C. Hill.
*Toronto, Ontario	29.53	750.0	29.90	759.4	66	18.9	75	NW	5	2.2	.....	2cs	0	NW	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.52	749.8	29.61	752.1	61.0	16.1	94	Calm	0	0	.....	.....	10n;k	.....	.....	0.21	5.3	Raining	Prof. John E. Oram.
Woodstock	28.90	734.0	29.92	760.0	68.0	20.0	75	W	9	4.0	.....	5ck	0	W	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.97	761.2	59.0	15.0	76	SW	.....	.....	.....	5k?	10s?	.....	.....	0.33	8.4	Fair?	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	751.8	29.82	757.4	69	20.6	61	NW	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Alpena, Michigan	29.23	742.4	29.85	758.2	67	19.4	79	S	4	1.8	.....	2ck	0	SW	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	50	10.0	93	Calm	.....	.....	0	.....	10s	.....	SW	0.43	10.9	Cloudy	
Atlanta, Georgia	28.94	735.1	30.02	762.5	83	28.3	56	W	9	4.0	.....	2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	29.85	758.2	29.86	758.4	76	24.4	60	W	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.83	757.7	30.02	762.5	83	28.3	67	SW	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Baltimore, Maryland	29.88	758.9	29.95	760.2	78	25.6	65	NW	5	2.2	.....	5c	Sm'e	NW	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	29.82	757.4	29.84	757.9	73	22.8	59	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.03	711.9	29.88	758.9	68	20.0	84	NE	2	0.9	.....	5k	0	W	.....	0	0	Fair	
Boerne, Texas	28.65	727.7	29.91	759.7	75	23.9	90	S	8	3.6	.....	2k	0	S	.....	0	0	Clear	
Boise City, Idaho	26.96	684.8	29.92	760.0	60	15.6	44	SE	5	2.2	.....	2k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.55	750.6	29.69	754.1	71	21.7	58	NW	16	7.2	.....	1k	0	Calm	.....	0.48	12.2	Clear	
Brackettville, Texas	28.90	734.0	29.89	759.2	77	25.0	82	E	10	4.5	.....	0	5s	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.81	731.8	29.76	755.9	65	18.3	89	SE	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Brownsville, Texas	30.00	762.0	30.04	763.0	77	25.0	91	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.22	742.2	29.89	759.2	67	19.4	64	W	5	2.2	.....	2c	0	NW	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	74	23.3	40	S	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Burlington, Vermont	29.51	749.5	29.78	756.4	66	18.9	64	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cairo, Illinois	29.71	754.6	30.08	764.0	83	28.3	71	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.43	696.7	30.00	762.0	50	10.0	86	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.91	759.7	29.92	760.0	80	26.7	82	NW	12	5.4	.....	1c	0	NW	.....	0.03	0.8	Clear	
Cape Henry, Virginia	29.89	759.2	29.90	759.4	79	26.1	66	W	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	29.91	759.7	29.93	760.2	80	26.7	91	NW	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair	
Cape May, New Jersey	29.86	758.4	29.88	758.9	73	22.8	85	NW	12	5.4	.....	2c	0	NW	.....	0	0	Clear	
Castroville, Texas	29.31	744.5	29.98	761.5	78	25.6	82	S	4	1.8	.....	0	8s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.92	760.0	29.98	761.5	83	28.3	67	NW	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Charlotte, North Carolina	29.19	741.4	29.95	760.7	85	29.4	57	N	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.30	744.2	30.06	763.5	82	27.8	63	W	5	2.2	.....	1cs	Haze	Calm	Calm	0.01	0.3	Dense haze.	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	68	20.0	51	W	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Chicago, Illinois	29.31	744.5	29.97	761.2	69	20.6	85	S	4	1.8	.....	.....	10n	.....	Calm	0.77	19.6	Light rain	
Cincinnati, Ohio	29.45	746.7	30.02	762.5	77	25.0	73	S	4	1.8	.....	6c;k	0	W;NW	.....	0.41	10.4	Fair	
Cleveland, Ohio	29.29	744.0	29.99	761.7	68	20.0	70	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Coleman City, Texas	28.30	718.8	29.88	758.9	80	26.7	59	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.20	741.7	30.00	762.0	70	21.1	75	W	2	0.9	.....	8ck	Sm'e	W	Calm	0.02	0.5	Fair	
Concho, Texas	28.19	716.0	29.80	756.9	74	23.3	72	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.65	753.1	30.10	764.5	77	25.0	82	S	4	1.8	.....	0	5ks	.....	SE	0	0	Fair	
Davenport, Iowa	29.38	746.2	30.00	762.0	67	19.4	95	E	14	6.3	.....	.....	10n	.....	Calm	1.51	38.4	Light rain	
Deadwood, Dakota	25.29	642.4	.....	.....	79	26.1	27	SE	2	0.9	.....	8ck	0	SE	.....	0	0	Fair	
Decatur, Texas	28.92	734.6	30.04	763.0	79	26.1	70	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.28	743.7	30.04	763.0	79	26.1	78	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.77	629.2	29.99	761.7	68	20.0	56	S	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.87	758.7	76	24.4	82	E	5	2.2	.....	.....	10s	.....	SW	0.02	0.5	Threatening	
Detroit, Michigan	29.29	744.0	29.94	760.5	67	19.4	74	W	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Dodge City, Kansas	27.39	695.7	29.55	750.6	75	23.9	56	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.25	742.9	29.92	760.0	68	20.0	84	SE	3	1.3	.....	10k	0	S	.....	2.52	64.0	Cloudy	
Duluth, Minnesota	29.15	740.4	29.79	756.7	71	21.7	62	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texa	29.28	743.7	29.97	761.2	78	25.6	73	SE	12	5.4	.....	5c	0	SW	.....	0	0	Fair	
Eastport, Maine	29.49	749.0	29.56	750.8	67	13.9	97	NW	3	1.3	.....	.....	10s;fg	.....	NW	0.48	12.2	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	78	25.6	82	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.28	667.5	.....	.....	67	19.4	89	NW	1	0.4	.....	0	1ks	.....	W	0.08	2.0	Clear	
Erie, Pennsylvania	29.24	742.7	29.92	760.0	70	21.1	75	Calm	0	0	.....	5c	0	W	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.22	742.2	29.84	757.9	73	22.8	67	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.49	723.6	30.09	764.3	78	25.6	82	SE	1	0.4	.....	.....	10n	.....	S	0.22	5.6	Light rain	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.82	706.6	.....	.....	65	18.3	78	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.30	642.6	30.26	768.6	63	17.2	67	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Fort Gibson, Indian Ter	29.51	749.5	30.01	762.2	85	29.4	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.31	642.9	30.11	764.8	67	19.4	84	Calm	0	0	.....	.....	10s	.....	Calm	1.21	30.7	Cloudy	
Fort Griffin, Texas	28.82	732.0	30.03	762.7	76	24.4	73	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.26	692.4	.....	.....	70	21.1	65	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.85	707.4	29.70	754.4	73	22.8	72	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	29.89	759.2	77	25.0	69	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.99	710.9	.....	.....	67	19.4	64	E	5	2.2	.....	1c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	75	23.9	56	N	.....	.....	1	.....	10s	.....	N	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.37	720.6	29.88	758.9	75	23.9	77	S	3	1.3	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.09	764.3	30.13	765.3	83	28.3	75	S	4	1.8	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	29.90	736.6	30.00	762.0	78	25.6	69	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.31	744.5	29.93	760.2	69	20.6	70	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.10	739.1	29.99	761.7	78	25.6	65	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.24	742.7	29.98	761.5	74	23.3	86	NW	1	0.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Indianola, Texas	30.10	764.5	30.12	765.0	84	28.9	79	S	3	1.3	.....	1k	0	S	.....	0.07	1.8	Clear	
Jacksboro, Texas	28.93	734.8	30.01	762.2	80	26.7	66	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	85	29.4	64	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.31	744.5	29.88	758.9	81	27.2	78	Calm	0	0	.....	5c;k	4s	Calm; W	Calm	0	0	Cloudy	
Key West, Florida	30.10	764.5	30.14	765.5	84	28.9	71	NE	3	1.3	.....	1k	0	E	.....	0	0	Clear	
Kittyhawk, North Carolina	29.88	758.9	29.91	759.7	81	27.2	67	NW	20	8.9	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.13	739.9	30.09	764.3	74	23.3	83	W	1	0.4	.....	.....	10ks	.....	SW	0.23	5.8	Cloudy	
La Crosse, Wisconsin	29.16	740.7	29.86	758.4	69	20.6	90	S	4	1.8	.....	2k	0	S	.....	0.55	14.0	Clear	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	64	17.8	94	Calm	0	0	.....	2k	0	S	.....	0.48	12.2	Clear	
Laredo, Texas	29.61	752.1	29.94	760.5	81	27.2	55	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.90	759.4	79	26.1	74	S	6	2.7	.....	5ck	0	W	.....	0	0	Fair	
Little Rock, Arkansas	29.77	756.1	30.12	765.0	79	26.1	74	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.60	751.8	29.94	760.5	54.0	12.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.48	748.8	30.01	762.2	80	26.7	70	S	4	1.8	.....	5c;cs	Sm'e	Calm	Calm	0.13	3.3	Fair	
Lynchburg, Virginia	29.32	744.7	29.96	761.0	82	27.8	59	W	4	1.8	.....	2c	0	W	.....	0.08	2.0	Clear	
Madison, Wisconsin	28.92	734.6	29.86	758.4	67	19.4	89	S	7	3.1	.....	8cs	0	W	.....	0.48	12.2	Clearing	
Marquette, Michigan	29.12	739.6	29.78	756.4	73	22.8	63	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.47	723.1	30.16	766.1	78	25.6	69	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.77	756.1	30.09	764.3	84	28.9	64	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.16	740.7	29.86	758.4	67	19.4	79	S	9	4.0	.....	.....	10s	.....	S	0.01	0.3	Cloudy	
Mobile, Alabama	30.11	764.8	30.15	765.8	80	26.7	72	W	10	4.5	.....	2c	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.91	759.7	30.14	765.5	81	27.2	74	W	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Upper. 0—10	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.08	737.3	29.07	761.2	75	23.9	72	Calm	0	0	.....	2ck	0	NW	.....	0.01	0.3	Fair	
Mt. Washington, N. H.	23.60	699.4	29.96	761.0	42	5.6	100	NW	37	16.5	.....	.....	Fog	.....	NW	0.78	19.8	Foggy	
Nashville, Tennessee	29.58	751.3	30.08	764.0	83	28.3	71	Calm	0	0	.....	1cs	Haze	Calm	.....	0	0	Hazy	
New Haven, Connecticut	29.66	753.4	29.77	756.1	74	23.3	59	NW	11	4.9	.....	0	0	.....	.....	0.16	4.1	Clear	
New London, Connecticut	29.68	753.9	29.73	755.1	74	23.3	55	N	8	3.6	.....	0	0	.....	.....	0.63	13.5	Clear	
New Orleans, Louisiana	30.11	764.8	30.17	766.3	82	27.8	71	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.69	754.1	29.74	755.4	71.5	21.9	60	NW	6	2.7	.....	0	0	.....	.....	0.36	9.1	Clear	
New York, New York	29.67	753.6	29.84	757.9	72	22.2	53	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	29.86	758.4	29.92	760.0	80	26.7	74	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.99	685.5	29.40	746.7	73	22.8	78	SE	6	2.7	.....	5k	5s	SW	S	0	0	Cloudy	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	52.0	11.1	93	E	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Omaha, Nebraska	28.72	729.5	29.73	755.1	84	28.9	64	S	10	4.5	.....	0	2s	.....	Calm	0	0	Clear	
Oswego, New York	29.58	751.3	29.80	759.2	63	17.2	83	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.89	733.8	29.68	753.9	62	16.7	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.83	757.7	29.88	758.9	76	23.9	56	NW	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.76	733.5	30.34	770.6	83	28.3	71	E	3	1.3	.....	.....	10ks	.....	Calm	0	0	Threatening	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	42	5.6	42	NE	6	2.7	.....	0	Haze	.....	.....	0.04	1.0	Hazy	
Pioche, Nevada	.....	.....	.....	.....	61	16.1	26	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.19	741.4	29.96	761.0	70	21.1	66	NW	4	1.8	.....	2c	0	N	.....	Inap.	Inap.	Fair	
Port Huron, Michigan	29.28	743.7	29.92	760.0	66	18.9	79	SW	5	2.2	.....	10cs	0	SW	.....	0	0	Cloudy	
Portland, Maine	29.60	751.8	29.65	753.1	69	20.6	70	N	12	5.4	.....	1c	0	Calm	.....	0.28	7.1	Clear	
Portland, Oregon	29.99	761.7	30.07	763.8	56.3	14.0	84	SE	3	1.3	.....	0	5ks	.....	N	0	0	Fair	
Prescott, Arizona	24.82	630.4	30.18	766.6	65	18.3	63	SW	.....	.....	1	5ck	0	SW	.....	0	0	Fair	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	83	28.3	75	NE	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Red Bluff, California	29.62	752.3	29.97	761.2	63	17.2	62	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.58	751.9	30.08	764.0	84	28.9	54	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.30	744.2	29.89	759.2	67	19.4	69	W	9	4.0	.....	1c	0	W	.....	Inap.	Inap.	Clear	
Roseburg, Oregon	29.56	750.8	30.12	765.0	56.5	13.6	90	SE	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Sacramento, California	29.90	759.4	29.99	761.7	54	12.2	87	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	29.98	761.5	80	26.7	70	SW	12	5.4	.....	2c	2s	W	Calm	0	0	Fair	
St. Marks, Florida	30.11	764.8	30.12	765.0	79	26.1	82	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.01	736.8	29.80	756.9	69	20.6	79	S	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Salt Lake City, Utah	25.60	650.2	29.92	760.0	68	20.0	38	SE	8	3.6	.....	1k	0	S	.....	0	0	Clear	
San Antonio, Texas	29.40	746.7	29.97	761.2	78	25.6	78	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.50	749.2	29.96	761.0	61	16.1	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.84	745.2	29.98	761.5	68	20.0	70	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	70	21.1	61	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.96	761.0	30.02	762.5	55	12.8	87	SW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	60	15.6	71	Calm	0	0	.....	1c	0	Calm	.....	0.12	3.0	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.7	88	31.1	56	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.92	760.0	30.14	765.5	80	26.7	74	S	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.95	760.7	29.98	761.5	81	27.2	83	NW	4	1.8	.....	8cs	Haze	NW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.48	647.2	29.54	750.3	71	21.7	75	SE	2	0.9	.....	0	8s	.....	E	0.71	18.0	Cloudy	
Springfield, Ill	29.84	745.2	30.01	762.2	79	26.1	74	N	2	0.9	.....	5cs	5s	Calm	W	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	29.64	752.8	29.76	755.9	74	23.3	59	NW	6	2.7	.....	0	0	.....	.....	0.08	2.0	Clear	
Stockton, Texas	27.03	686.6	30.03	762.7	73	22.8	43	S	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy	
Thatcher's Island, Mass	29.64	752.8	29.69	754.1	67	19.4	69	NW	21	9.4	.....	2k	0	NW	.....	0.42	10.7	Clear	
Toledo, Ohio	29.32	744.7	29.98	761.5	67	19.4	69	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Tucson, Arizona	27.54	697.0	30.09	764.3	81	27.2	62	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Umatilla, Oregon	29.50	749.3	29.97	761.2	65.0	18.3	63	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.16	740.7	29.95	760.7	77	25.0	77	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.94	760.5	30.18	766.6	81	27.2	70	W	4	1.8	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.26	616.2	29.74	755.4	60	15.6	44	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.56	750.8	29.93	760.2	61	16.1	69	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.82	757.4	29.92	760.0	79	26.1	61	NW	8	3.6	.....	5c	0	NW	.....	Inap.	Inap.	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	80	26.7	55	S	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.86	758.4	29.94	760.5	81	27.2	78	NW	6	2.7	.....	5cs	Haze	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	57	13.9	15	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.67	753.6	29.70	754.4	72	22.2	71	N	10	4.5	.....	0	0	.....	.....	0.55	14.0	Clear	
Yankton, Dakota	28.53	724.6	29.73	755.1	75	23.9	86	SE	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.71	754.6	29.87	758.7	81	27.2	59	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.28	642.1	.....	.....	65.8	18.8	85	Calm	.....	.....	0	7c;cs	2ks	.....	.....	0.57	14.5	.....	Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	75	23.9	90	SE	.....	.....	2	.....	10n	SE	.....	0.030	0.76	Rainy	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,821 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡	.....	.....	81	27.2	87	W	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡	.....	.....	72.5	22.5	95	Calm	.....	.....	0	.....	10ks;n	.....	NE	0.08	2.0	.....	.....	Gloomy.....	
Adams, Pichilinque Bay, L. C., Mex.	29.91‡	759.7‡	.....	.....	78	25.6	100	NNW	.....	....	1	.....	5	.....	N	.....	.....	Smooth	.....	Fair.....	
Alliance. Schelde river, Belgium..	29.53‡	750.0‡	.....	.....	62	16.7	66	WSW	.....	.....	5–6	.....	5	.....	W	.....	.....	Mod'ate	W	Pleasant.....	
Ashuelot, Yokohama, Japan	29.92‡	760.0‡	.....	.....	74	23.3	95	NNE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Colorado, New York, N. Y.	29.90‡	759.4‡	.....	.....	70	21.1	61	NW	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Squally.....	
Constitution, League Isl. Navy Yard, Pa.	29.81‡	757.2‡	.....	.....	74	23.3	72	NNW	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Copenhagen, Denmark..	29.43‡	747.5‡	.....	.....	63	17.2	72	SW	.....	.....	3–5	.....	4	.....	SW	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	29.92‡	760.0‡	.....	.....	80	26.7	70	WNW	12	5.4	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Hartford. Montevideo, Uruguay	30.14‡	765.5‡	.....	.....	46	7.8	100	N	3	1.3	.....	.....	.....	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mare I'd. Navy Yard, Cal.	29.98‡	761.6‡	.....	.....	62	16.7	77	WSW	2	0.9	.....	.....	1?	.....	wsw	.....	.....	.....	.....	Cloudy.....	
Kearsarge, N. 39° 20′ W. 59° 00′	30.00‡	762.0‡	.....	.....	70	21.1	75	S	.....	.....	5	.....	3	.....	S	.....	.....	Long	S	Clear.....	
Michigan, Erie, Pa.	29.88‡	758.9‡	.....	.....	69	20.6	85	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	29.72‡	754.9‡	.....	.....	82	27.8	91	SSW	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Monongahela, Yokohama, Japan	29.93‡	760.2‡	.....	.....	79	26.1	70	Calm	.....	.....	0	.....	n	.....	.....	Mod'ate	Mod'ate	.....	.....	Overcast.....	
New Hampshire. Port Royal, S. C.	30.01‡	762.2‡	.....	.....	81	27.2	87	SW	12	5.4	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.25‡	768.3‡	.....	.....	62	16.7	88	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.73‡	755.1‡	.....	.....	82	27.8	91	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	78	25.6	86	W	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	30.05‡	763.3‡	.....	.....	61	16.1	94	SSE	4	1.8	.....	.....	10	.....	.....	0	0	Smooth	W	Overcast.....	
Portsmouth. Newport, Rhode Island.	29.67‡	753.6‡	.....	.....	67	19.4	74	N	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Powhatan, Vineyard Haven, Mass	29.75‡	755.6‡	.....	.....	68	20.0	79	NW	.....	.....	4	.....	2	.....	.....	0.5	13.	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.99‡	761.7‡	.....	.....	77	25.0	59	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Hong-Kong, China	29.70‡	754.4‡	.....	.....	82	27.8	87	Calm	.....	.....	0	.....	2?	.....	Calm	.....	.....	Smooth	Calm	Raining?.....	
Richmond, Yokohama, Japan	29.93‡	760.2‡	.....	.....	74	23.3	95	NNE	.....	.....	1	.....	10	.....	.....	0.02	0.5	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas	30.06‡	763.5‡	.....	.....	78	25.6	95	SE	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md	29.94‡	760.5‡	.....	.....	77	25.0	82	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Saratoga. New York City, N. Y.	29.83‡	757.7‡	.....	.....	70	21.1	100	NW	.....	.....	5	.....	2	.....	Calm	0	0	.....	.....	Misty.....	
St. Louis, League Island, Pa	29.89‡	759.2‡	.....	.....	75	23.9	86	NW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Trenton, Antwerp, Belgium	29.54‡	750.3‡	.....	.....	60	15.6	71	SW	.....	.....	3–5	.....	10	.....	SW	0.02	0.5	Smooth	.....	Squally.....	
Tuscarora, Mare Island Navy Yard, Cal	29.98‡	761.5‡	.....	.....	60	15.6	82	SW	.....	.....	3	.....	10	.....	Calm	0	0	Smooth	.....	Overcast.....	
Vandalia, N. 41° 06′ W. 72° 49′	29.81‡	757.2‡	.....	.....	68	20.0	95	N	.....	.....	3	.....	0?	.....	N?	.....	.....	Smooth	.....	Clear.....	
Wabash. Boston, Mass	29.66‡	753.4‡	.....	.....	70	21.1	70	NW	10	4.5	.....	.....	0	.....	.....	0.03	0.8	.....	.....	Clear.....	
Wyoming, Trieste, Austria	29.78‡	756.4‡	.....	.....	78	25.6	50	SSW	.....	.....	3–4	.....	8	.....	SW	.....	.....	Smooth	SW	Cloudy.....	
Wachusett, Vicksburg, Miss.	30.08‡	764.0‡	.....	.....	78	25.6	86	SSW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
S.S. Samaria																		Capt. T. Roberts.	

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.	
S. S. City of New York																		Capt. Seabury	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearborn	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio Capt. Maury																		Capt. R. Searle.	
S. S. Colima																		Capt. Whitebur	
S. S. Costa Rica																		W. House.	
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal. †		29.96‡	761.0‡	57	13.9		SE			1		0		SE?	0			Clear	
S. S. Georgia																		Capt. Connolly.	
S. S. Granada, Capt. Austin.																		F. W. Hart, 1st Officer.	
S. S. Wilmington																		Capt. A. Fuller.	
S. S. Zealandia, N. 34° 45′, W. 130° 44′		30.03‡	762.7‡				N			1		10		NW		Mod'ate	NW	Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Jenning.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell.	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																		D. A. Joyce, 2nd Officer.	
S. S. Gaelic, Capt. Davidson, Yokahama, Japan †		29.94‡	760.6‡	76	24.4		SE			3		ks		SE	0	Smooth		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 34° 35′, E. 138° 56′ †		29.81‡	757.2‡	79	26.1	91	WSW			4		5		W		1	WSW	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undütsch.	
S. S. Leipzig, Capt. F. Peiffer, N. 40° 32′, W. 23° 48′		30.15‡	765.8‡	63.5	17.5	89	WSW			2		10				Smooth	WSW, WNW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.53‡	750.0‡				SW			5		10		SW				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.37‡	746.0‡	64	17.8	83	NW			5		8		NW	0			Clear?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 27° 13′, W. 83° 55′		30.21‡	67.3‡	83	28.3	75	NW	5	2.2		2c	2k		N	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.04	763.1	68.4	20 2	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.09	764.3	81.7	27.6	60	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.06	763.4	78.8	26.0	63	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.10	764.6	81.0	27.2	73	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.05	763.3	87.8	31.0	28	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.08	764.1	86.1	30.2	39	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	30.09	764.2	79.3	26.3	31	W	.....	.....	4	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.01	762.3	90.4	35 8	23	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.97	761.2	103.5	39.7	17	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.25	742.9	29.78	756.5	64.2	17.9	63	S	.....	.....	4	.....	3	.....	.....	0.016	0.4	.....	Prof. Ivan Stosir.
Crucow, I. R. Observatory	28.91	734.2	29.66	753.4	57.6	14.2	80	NW	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	Dr. Wierzbiski.
Eperies	28.79	731.2	29.61	752.9	60.8	16.0	75	N	.....	.....	1	.....	10	.....	S	1.028	26.10	.....	Julius Mikolik.
Gratz	28.53	724.7	29.74	755.5	63.5	17.5	69	ESE	.....	.....	3	.....	7	.....	.....	1.984	50.4	Thunder-storm.	Andreas Rospini.
Hermannstadt	28.17	715.6	29.48	748 8	84.9	29.4	53	NW	.....	.....	3	.....	5	.....	.....	0.024	0.6	.....	Prof. A. Gottschling.
Kremsmünster	28.45	722.7	29.76	755.9	60.6	15 9	57	WNW	.....	.....	4	.....	5	.....	.....	1.236	31.4	.....	Prof. C. Wagner.
Lemberg	28.67	725.7	29.52	749.9	63.1	17.3	83	NW	.....	.....	3	.....	10	.....	.....	0.213	5.4	.....	Dr. T Stanecki.
Pola	29.63	752.7	29.74	755.4	71.8	22.1	53	E	.....	.....	1	.....	6	.....	.....	0.236	6.0	Raining	I.R.HydrographicOffice.
Szathmar	29.24	742.7	29.69	754.2	60 8	16.0	88	SE	.....	.....	2	.....	10	.....	.....	0.358	9.1	Raining	Julius Csics, S. J.
Szegedin	29.45	748.0	29.72	755.0	60.4	15.8	91	W	.....	.....	2	.....	6	.....	.....	0.293	7.45	.....	Karl Stancel.
Trieste	29.04	762.8	29.74	755.4	78 8	26.0	73	S	.....	.....	1	.....	2	.....	.....	0 142	3.6	.....	P. Busin.
Vienna	29.05	737.8	29.77	756.2	65.1	18.4	64	W	.....	.....	4	.....	3	.....	.....	0.031	0.8	.....	I. R. Central Met.Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.66	753.4	29.76	755.9	53.9	12.2	.....	NW	25	11.2	.....	.....	6	.....	.....	0.020	0.51	Squally	W. Boswell.
Ardrossan	29.79	756.7	29.80	756.9	55	12.8	.....	NW	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky	Wm McNeil &G.Carrick
Armagh, Observatory	29.74	755.4	29.96	761.0	57.4	14.1	.....	NW	6	2.7	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.84	757.9	55.2	12.9	.....	W	33	14.8	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.79	756.7	59.7	15.4	.....	W	18	8.0	.....	.....	7	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.39	746.5	29.78	756.4	59.5	15.3	.....	NW	.....	.....	2	.....	6	.....	.....	0.35	8.9	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.03	762.7	30.06	763.5	78	25.6	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.61	752.1	29.70	754.4	60.0	15.6	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.77	756.1	58.0	14.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.69	754.1	29.82	757.4	56.1	13.4	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper. R. E.
Donaghadee	29.87	758.7	29.91	759.7	57	13.9	.....	N	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.77	756.1	29.82	757.4	57	13.9	.....	NNW	.....	.....	3	.....	6	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.81	757.2	30.04	763.0	59.5	15.3	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.88	708.1	30.16	766.1	58.0	14.4	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.00	762.0	60	15.6	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.02	762.5	30.07	763.8	76.5	24.7	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.59	751.6	29.80	756.9	59.9	15.5	.....	WNW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.71	754.6	29.72	754.9	52	11.1	.....	NW	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.65	753.1	29.82	757.4	59.6	15.3	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.76	755.9	29.98	761.5	60	15.6	.....	NW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29 98	761.5	30.10	764.5	63	17.2	.....	NW	.....	.....	4	.....	3ck	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.91	759.7	29.93	760.2	58	14.4	.....	WNW	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.74	755.4	30.03	762.7	58.6	14.8	.....	WNW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.80	756.9	29.84	757.9	61.8	16.6	.....	WNW	17	7.6	.....	.....	9	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.56	750.8	29.82	757.4	55.5	13.1	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.82	757.4	29.86	759.2	80.2	26.8	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.69	754.1	29.79	756.7	53	11.7	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.08	764.0	85.0	29.4	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Oscott, St. Mary's College	29.62	752.3	29.81	757.2	60.3	15.7	.....	SW	.....	.....	5	.....	8kd;n	.....	WNW	0.014	0.35	D. clouds	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	29.33	745.0	29.85	758.2	54.9	12.7	.....	WNW	.....	.....	4–5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Plymouth	.....	.....	29.85	758.2	60	15.6	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Prince Town	29.91	759.7	29.98	761.5	64.5	18.1	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
*Roche's Point	28.54	724.9	30.00	762.0	53.0	11.7	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	Fine	W. H. Tooker.
Saint Ann's Head	30.00	762.0	30.11	764.8	59	15.0	.....	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Sandwick Manse (Orkneys)	29.82	757.4	29.98	761.5	56	13.3	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Scutari, Cemetery (Turkey)	.....	.....	29.76	755.9	60.5	10.8	.....	NW	21	9.4	.....	.....	7	.....	.....	.....	.....	D. clouds	Rev C.Clouston,L.L.D.
Sheffield	29.60	751.8	29.66	753.4	60.4	26.9	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Silloth Rectory	29.53	750.0	29.81	757.2	60.2	15.7	.....	W	.....	.....	2	.....	10	.....	.....	0.04	1.0	Overcast	W. F. Cooper.
Stonyhurst, Observatory	29.76	755.9	29.79	756.7	67.2	19.6	62	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Straifield, Turgiss	.....	.....	29.80	756.9	58.1	14.5	.....	WSW	18	8.0	.....	.....	7	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Truro, Royal Institution	29.62	752.3	29.85	758.2	61.9	16.6	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	Squally	Rev .C.H.Griffith,F.M.S.
Valencia, Observatory	30.03	762.7	30.05	763.3	62	16.7	.....	NW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
	30.11	764.8	30.13	765.3	55.3	12.9	.....	NW	11	4.9	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.22	767.6	30.27	768.8	63.0	17.2	61	S	13.8	6.2	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.95	760.7	41	5.0	78	S	.....	.....	2	.....	7k	.....	.....	0.02	0.5	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.80	756.9	59.5	15.3	.....	W	.....	.....	1	.....	9k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.07	763.7	73.9	23.3	64	E	10.5	4.7	.....	1	1	.....	.....	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.11	764.8	30.20	767.1	47.1	8.4	91	WSW	6	2.7	.....	.....	10	.....	.....	0.46	11.7	Drizzling	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.91	759.7	52	11.1	.....	NW	.....	.....	4	10	5	NW	.....	0	0	.....	J. Youngclaue.
North Unst (Shetland Is.)	.....	.....	29.75	755.6	50	10.0	.....	NNE	.....	.....	4	.....	10	.....	.....	0	C	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25′, E. 28° 45′	.....	.....	Misty	Capt. W. J. L. Wharton.
Algeria, N. 40° 40′, W. 68° 05′	.....	.....	Blue sky	Capt. Wm. Watson.
Agnes Wilson, N. 39° 00′, W. 64° 10′	2	.....	Blue sky	Capt. H. W. Dyke.
Astarte, N. 43° 15′, W. 33° 30′	.....	NNW	Blue sky	Capt. Parson.
Theophane, S. 30° 20′, E. 7° 35′	.....	.....	Overcast	Capt. Greig.
S. S. Amanda	.....	.....	D. clouds	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
San José	26.29	667.8	30.01	762.2	65.3	18.5	93	SE	.....	.....	1	9c;s	.....	.....	.....	0.2	5.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.35	745.6	29.40	746.8	58.6	14.8	77	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Raining	.....
Fanöe	29.36	745.8	29.38	746.3	52.3	11.3	96	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	.....
Godthaab (Greenland)	30.04	763.1	30.08	764.2	53.4	11.9	75	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Stykkisholm (Iceland)	29.81	757.1	29.85	758.2	52.5	11.4	83	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.81	757.2	29.85	758.1	48.2	9.0	72	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.28	743.7	29.39	746.5	56.5	13.6	90	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.4	30.02	762.4	58.6	14.8	82	SW	.....	.....	3	.....	8	.....	SW	0.047	1.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.72	755.0	29.83	757.6	62.2	16.8	75	NW	.....	.....	5	.....	5	.....	ESE	0.465	11.8	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.58	751.2	29.83	757.6	55.4	13.0	88	NW	.....	.....	5	.....	.....	Calm	NNW	0.197	5.0	.....	Klein, Commandant.
Avignon, Normal School	29.93	760.3	30.01	762.3	70.2	21.2	48	N	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Giraud, Director.
Bar-sur-Seine	29.37	746.0	29.92	760.0	57.7	14.3	79	NW	.....	.....	1	.....	8	.....	W	0.218	5.4	Raining	G. Saillard, Director.
Beauvais, Normal School	29.61	752.2	29.87	758.8	62.8	17.1	63	WNW	.....	.....	5	.....	8	.....	NW	0.335	8.50	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.09	738.9	29.97	761.2	62.4	16.9	63	S	.....	.....	2	.....	8	.....	NE	0.421	10.7	Very cloudy	A. Carré, Director.
Bourg-en-Bressé, N. School	29.21	741.9	30.14	765.6	62.2	16.8	63	SW	.....	.....	1	.....	8kn	W	W	0.031	0.8	Very cloudy	Marlot, Director.
Bourges, Normal School	29.43	747.5	29.98	761.4	60.4	15.8	66	NW	.....	.....	1	.....	2ck8	NW	NW	0.20	5.	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.81	757.2	30.06	763.4	63.7	17.6	61	NW	.....	.....	2	.....	4	.....	NW	0.010	0.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.65	753.1	30.05	763.3	69.1	20 6	45	WNW	.....	.....	3	.....	5	WNW	WNW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.87	758.8	29.96	760.7	60.1	15.6	61	W	.....	.....	1	.....	.....	.....	W	0 4:9	10.4	.....	Lair, Director.
Chartres, Normal School	29.34	745.3	29.90	759.4	64.9	18.3	88	W	.....	.....	3	.....	8	.....	E	0.492	12.5	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.8	29.87	758.8	61.2	16.2	69	SW	.....	.....	3	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.67	728.3	30.00	762.1	62.6	17.0	48	W	.....	.....	2	.....	10	.....	W	0.012	0.3	.....	Allnard, Director.
Commercy, Normal School	29.00	736.7	29.85	758.2	56.7	13.7	78	SW	.....	.....	5	.....	8kn	SW	SW	0.272	6.9	Raining	Dr. Coulet, Director.
Commune de Grésque*	28.89	733.9	30.04	762.9	68.4	20.2	31	NW	.....	.....	5	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.82	744.6	30.07	763.8	63.3	17.4	56	NW	.....	.....	1	.....	kn	.....	SW	0.646	16.4	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.90	759.5	30.11	764.8	65.8	18.8	57	NW	.....	.....	3	.....	5	.....	NW	0.047	1.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.69	754.2	30.00	761.9	60 3	15.7	62	NW	.....	.....	3	.....	5	.....	NW	0.167	4.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.5	30.02	762.5	61 5	16.4	69	SW	.....	.....	3	.....	2k	WNW	WNW	0.287	7.30	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.01	762.2	30.11	764.7	59.7	15.4	78	WSW	.....	.....	3	.....	.....	.....	SW	0.008	0 2	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.70	754.4	29.97	761.2	72.3	22.4	43	NW	.....	.....	5-6	.....	5	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.82	731.9	29.85	758.2	66.8	13.8	80	SW	.....	.....	3	.....	5	.....	SW	0.28	7.	Cloudy	Barbier, Director.
Mont-Louis	24.94	633.5	30.26	768.5	59.9	15.5	47	ENE	15.0	6.7	.....	.....	2	.....	N	0	0	.....	C. Cave.
Nismes, Normal School	29.82	757.5	30.03	762.8	73.0	22.8	36	W	.....	.....	5	.....	5	.....	W	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.93	752.5	61.3	16.3	65	W	.....	.....	2	.....	6	.....	WNW	0.146	3.7	.....	Marie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.64	775.1	.....	.....	36.0	2.2	.....	NW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Gen'l de Nansouty.
Perpignan	29.98	761.5	30.08	764.1	70.0	21.1	38	N	31 8	14.2	.....	.....	2	WNW	.....	0	0	.....	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.11	637.9	.....	.....	38.3	3.5	100	W	.....	.....	7	.....	.....	.....	.....	0.240	6.1	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	64.4	18.0	69	WSW	.....	.....	2	.....	8	WSW	WSW	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.5	29.91	759.7	58.6	14.8	79	W	.....	.....	2	.....	8	.....	W	0.319	8.1	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.02	762.6	30.05	763.2	60.4	15.8	79	WNW	.....	.....	3	.....	1	WNW	WNW	0.100	2.50	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.4	29.91	759.6	61.5	16.4	65	W	.....	.....	2-3	.....	8	WNW	WNW	0.016	0.4	.....	E. Renou, Director.
Tarbes, Normal School	29.13	739.8	30.17	766.4	69.8	21	58	SW	.....	.....	1	.....	2	WSW	W	0.12	3.	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.48	748.9	30.21	767.3	57.9	14.4	91	W	.....	.....	5	.....	10	.....	.....	0.012	0.3	.....	M. Juller Mercadier.
Tours	29.82	757.3	30.01	762.3	63.3	17.4	57	WNW	.....	.....	5	.....	8	.....	NW	0.154	3.9	.....	Cousin-Marquet.
Versailles, Observatory	29.42	747.2	29.91	759.7	62.6	17.0	57	W	.....	.....	5	.....	.....	.....	.....	0.028	0.71	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.34	745.2	30.04	763.0	63.0	17.2	68	SW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.1	29.95	760.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.48	747.4	30.03	762.8	62.6	17.0	66	SSE	.....	.....	1	.....	5	.....	WSW	0.152	3.86	Cloudy	Ch. André, Director.
Nice	.....	.....	29.76	756.5	77 0	25.0	40	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	G. A. Nissen, Jr.
Zi-Ka-Wei (near Shanghai)	29.78	756.5	29.81	757.1	81.1	27.3	84	SSE	9.8	4.4	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Grésque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:06 instead of 6:55 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet. Commune de Grésque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,534.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1–)	Clouds. Amount. Up'er (0–10)	Clouds. Amount. Low'r (0–10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.90	734.1	29.74	755.3	59.5	15.3	71	SW			4		7	SW		0.020	0.5	Raining	Prof. Dr. Hoh.
Berlin	29.37	746.1	29.54	750.4	61.5	16.4	71	S			7		10			0.185	4.7	Rain & hail.	Prof. Dr. Arndt.
Breslau	28.13	739.8	29.65	753.1	55.0	12.8	87	NW			4		9			0	0		Royal University Observatory
Carlsruhe	29.37	746.0	29.79	756.7	55.8	13.2	85	SW			4		10	SW		0.426	10.8	Raining	Albert Sens.
Cassel	29.60	736.5	29.60	751.8	58.3	14.6	72	W			2		8	WSW		0.305	7.72		Dr. H. Möhl.
Crefeld	29.45	748.0	29.61	752.1	57.7	14.3	83	NW			6		8kn			0.79	20.		Director Lose.
Emden			29.50	749.4	61.2	16.2	87	NW			5		9			0.417	10.6		Prof. Dr. Prestel.
Frankfort on the Main	29.35	745.5	29.71	754.7	60.4	15.8		WSW			3		10			0.114	2.9		Physical Society.
Freienwalde on the Oder	29.49	749.1	29.53	750.1	59.5	15.3	83	S			4		8ks	SW		0.067	1.7		Dr. Assmann.
Friedrichshafen	28.49	723.7	29.93	760.3	51.1	10.6	83	WNW			8		10	WNW		0.335	8.5	Raining	M. Wilhelm.
Hamburg	29.37	746.1	29.45	747.9	59.0	15.0	81	WSW			5		7ck			0.232	5.9	Squally	Captain F. Hegemann.
Kiel	29.37	746.0	29.39	746.4	59.4	15.2	81	SW			4		10			0.321	8.14		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.43	747.4	29.50	749.4	67.1	19.5	56	W			4		6			0	0		Prof. E. Luther.
Köslin			29.49	749.0	61.3	16.3		W			2		2			0.228	5.8		H. Müller.
Leipsic Observatory	29.19	741.5	29.60	751.9	63.1	17.3	55	WSW			6		8	WSW		0.083	2.1	Stormy	Prof. Bruhns, Privy Counselor.
Memel	29.48	748.7	29.52	749.9	65.6	18.8	64	W			1		8cs						Skalweit.
Munich (München)	28.02	711.7	29.87	758.7	60.8	16.0	53	SW			10		6	SW		0.008	0.2	Rain-squalls	Dr. C. Lang.
Neufahrwasser	29.51	749.6	29.53	750.0	62.2	16.8	68	NNE			2		9	SW		0.087	2.2		A. Lothes.
Posen	29.35	745.5	29.63	752.6	64.2	17.9	56	W			5		8			0.024	0.6		Dr. Magener.
Strassburg (in Alsace)	29.33	745.0	29.87	758.8	59.7	15.4	76	WSW			3		7	W		0.287	7.31	Raining	Imp. University Observatory.
Stuttgart	28.86	733.0	29.78	756.4	60.3	15.7	71	W			7		7	W		0.110	2.8		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.26	718.9	29.80	756.8	55.9	13.3	66	W	20	9			8ck	W	W	0.016	0.4	Hazy	T. Hopfner.
Wustrow	29.43	747.4	29.45	748.0	59.4	15.2	72	SSW			5		10ks			0.016	0.4		E. Schmitz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2d, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.39	746.6	29.77	756.1	85.3	29.6		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.86	745.8	29.41	747.0	84.5	29.2	78	W					10			0	0	Threatening	
Deesa	28.99	736.4	29.45	748.1	88.7	31.5	65	S	29.5	13.2			4		SSW	0	0	D. clouds	
Bombay	29.66	753.4	29.70	754.3	82.7	28.2	81	WSW	19.0	8.5			10		W	0.04	1.0	Overcast	
Poona	27.86	707.5	29.72	754.9	73.0	22.8	90	WSW					10		WSW	0.01	0.3	Overcast	
Lahore	28.67	725.8	29.28	743.6	98.2	36.8	45	E	5.4	2.4			8			0.12	3.0	D. clouds	
Belgaum	27.22	691.4	29.77	756.2	71.6	22.1	86	W	8.0	3.6			10	W	W	0.06	1.5	D. clouds	
Roorkee	28.48	723.4	29.36	745.6	85.8	29.9	81	SE	2.2	1.0			4			2.72	69.1		
Agra	28.83	732.3	29.38	746.2	89.7	32.1	70	Calm					8		S	0	0		
Nagpur	28.61	724.1	29.53	750.1	84.5	29.2	62	NW	6.9	3.1			9		E	0	0	D. clouds	
Lucknow	29.02	737.2	29.39	746.6	80.3	26.8	96	S	8.0	1.8			10			0.74	18.8	Raining	
Allahabad	29.15	740.4	29.46	748.3	80.1	26.7	93	SW	4.6	2.1			10			0.26	6.6	Drizzling	
Patna	29.27	743.4	29.45	748.0	78.9	26.1	91	SSW	0.2	0.1			10		SSW	SW	0.86	21.8	Drizzling
Hazaribagh	27.60	698.4	29.50	749.4	76.3	24.1	91	W	9.2	4.1			10		W	0.69	17.5	Raining	
Cuttack	29.46	748.2	29.54	750.2	81.0	27.2	86	W	2.0	0.9			7			0.50	12.7	D. clouds	
Calcutta (Alipore)	29.47	748.4	29.49	749.0	82.0	27.8	89	S	3.0	1.3			10	W		0	0	Gloomy	
Goalpara	29.11	739.3	29.49	749.1	77.9	25.5	95	Calm	3.1	1.4			10			1.45	36.8	Drizzling	
Chittagong	29.49	749.0	29.58	751.4	78.9	26.1	92	Calm	3.0	1.3			10			0	0		
Sibsagar	29.19	741.4	29.52	749.7	83.0	28.3	88	ENE	2.6	1.2			10	W	W	0.30	7.6	D. clouds	
Jubbulpore	28.15	715.0	29.49	749.0	84.2	29.0	60	W	5.0	2.2			9		N	0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.36	745.5	29.74	755.5	74.8	23.8	41	SE	0.7	0.3	.....	.....	6	.....	.....	0.055	1.4	.....	Prof. Giovanni Clodig.
Milan	29.25	742.9	29.74	755.5	75.9	24.4	29	SSW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	28.85	732.7	29.74	755.4	74.3	23.5	37	E	8.7	3.9	.....	.....	5	W	.....	0.173	4.4	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.87	733.2	29.73	755 2	75.2	24.0	20	NW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.61	752.1	29.80	756.8	73.2	22.9	60	SW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.91	708.8	29.74	755.4	72.0	22.2	15	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.69	754.0	29.73	755.2	74.3	23.5	49	N	6.9	3.1	.....	.....	6	WSW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.56	750.7	29.81	757.1	77.0	25.0	43	W	.....	.....	4	.....	9	.....	.....	0.043	1.1	.....	Cav. F. Meucci.
Leghorn	29.70	754.4	29.78	756.5	70.9	21.6	53	W	35.3	15.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.05	753.0	29.82	757.3	81.0	27.2	40	W	12.5	5.6	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.56	750.8	29.80	757.0	85.6	29.8	29	WNW	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.4	29.87	758.6	82.4	28.0	61	NW	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.81	757.2	30.00	761.9	73.4	23.0	37	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.4	29.95	760.7	77.9	25.5	48	W	13.0	5.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.79	756.6	29.86	758.5	80.8	27.1	47	NNE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.35	745.4	29.90	759.5	72.0	22.2	53	WSW	9.8	4.4	.....	.....	8	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.8 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,844 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	79.5	26.4	79	SSW	11.1	5.0	.....	.....	2s	.....	.....	0	0	Clear..	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.98	761.5	78.9	26.1	88	W	6.8	3.0	.....	.....	2s	.....	.....	0.020	0.51	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.67	753.6	29.73	755.1	76.9	24.9	91	SE	2.0	0.9	.....	.....	4ck	.....	.....	0.070	1.78	Fair	The Staff.
Wakayama	29.83	757.7	29.87	758.7	77.8	25.4	89	NW	3.5	1.6	.....	.....	1s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.6	30.17	766.2	68.1	14.5	78	SE	.....	.....	1	.....	9	.....	.....	0.24	6.2	Very cloudy	Prof. L. Perez.
Leon	24.60	622.3	30.14	765.5	64.0	17.8	89	SW	.....	.....	2	9cs	0	NW	E	0.23	5.9	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.16	587.9	30.15	765.9	55.4	13.0	90	Calm	0	0	.....	6c	1k	.....	.....	0.14	3.5	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.8	17.1	81	Calm	.....	.....	0	0	9k	.....	.....	0.02	0.6	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.98	761.6	30.00	761.9	76 3	24 6	96	SW	.....	.....	1	6	4	Calm	NW	1.31	33.3	Covered	Prof. M. M. Chazaro.
San Luis Potosi	24.27	616.5	30.22	767.6	60.4	15.8	48	E	.....	.....	1	8	2	W	E	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.61	574.3	30.21	767.4	54.7	12 6	85	SE	.....	.....	2	1k	0	SE	.....	Inap.	Inap	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.49	596.6	30.25	768.4	52.9	11.3	84	N	3.6	1.6	.....	10ck	0	SE	.....	0	0	Covered	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.71	754.6	30.00	761.9	78.1	25.6	89	NW	.....	.....	1	6c	0	.....	.....	0	0	½ clouded	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,550.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	29.73	755.1	29.73	755.1	56.5	13.6	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.539	13.7	.....	.....
Helder	29.85	758.2	29.61	752.6	58.5	14.7	.....	NW	.....	.....	3	.....	.....	.....	.....	0.429	10.9	.....	.....
Hellevoetsluis	29.58	751.3	29.58	751.3	56.1	13.4	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Utrecht	29.65	753.1	29.65	753.1	58.1	14 5	73	NW	.....	.....	4	.....	.....	.....	.....	0.213	5.4	.....	.....
	29.58	751.2	29.62	752.4	62.2	16.8	71	WNW	.....	.....	4	.....	8	.....	.....	0.327	21.0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.82	744.7	29.37	746.1	62.2	16.8	69	WNW	4.9	2.2	.....	.....	8	.....	.....	0.079	2.0	Light rain...	
Bröno	29.40	746.7	29.44	747.7	64.2	17.9	65	N	9	4	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.22	742.2	29.36	745.7	66.6	18.9	53	SSW	9	4	.....	.....	4	.....	.....	0.138	3.5	.....	
Tromsö	29.47	748.5	29.51	749.6	47.3	8.5	81	ENE	7	3	.....	.....	10	.....	.....	0.163	4.2	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.23	767.7	30.41	772.5	70.2	21.2	70	ESE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.14	740.1	30.10	764.5	89.1	31.7	20	NNE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	29.97	761.3	30.06	763.5	79.5	26.4	44	W	9.8	4.4	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.85	758.3	30.20	767.1	79.7	26.5	37	N	23.7	10.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.34	770.6	30.41	772.4	73.8	23.3	56	SE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd'r.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 2° 43′, E 8° 20′	.....	.....	30.06	763.4	76.3	24.6	.....	SSW	.....	.....	2	.....	10	.....	SSW	2	SSW	Overcast...	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea	.....	.....	30.08	763.9	62.2	16.8	.....	NNW	.....	.....	1	.....	10	.....	NW	1	NNW	Overcast	H. de C. C. Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.04	763.0	77.0	25.0	.....	ENE	.....	.....	3	.....	8	.....	ENE	2	ENE	D. Clouds, ½ hr's rain.]	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.80	757.0	82.4	28.0	.....	SW	.....	.....	5	.....	10	.....	SW	3	SW	Raining. 15 hr's rain-fall.]	J.G. Feigo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.16	740.7	29.57	751.1	63.3	17.4	65	SW	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.11	739.3	29.51	749.5	67.5	19.7	70	S	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.33	745.0	29.56	750.9	69.1	20.6	54	ESE	7	3	.....	.....	8ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.56	750.8	29.58	751.2	68.0	20.0	52	WSW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.90	734.0	29.49	749.0	81.3	27.4	45	S	13	6	.....	.....	8k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.67	753.7	29.74	755.5	83.1	28.4	43	SSW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.89	759.2	29.91	759.7	75.6	24.2	60	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.17	740.9	29.69	754.2	66.4	19.1	91	S	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.61	752.1	29.80	757.0	87.1	30.6	35	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.43	747.4	29.45	747.9	57.9	14.4	76	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.50	723.9	29.84	757.9	81.5	27.5	47	SE	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.02	762.5	29.94	760.4	87.3	30.7	25	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.42	747.2	29.86	758.5	79.3	26.3	47	NW	0	0	.....	.....	4ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.51	749.6	29.76	756.0	74.3	23.5	51	WSW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.78	731.0	29.69	754.2	73.9	23.3	43	W	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	27.97	710.4	29.40	746.7	93.2	34.0	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.18	741.1	29.65	753.1	73.2	22.9	64	NW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.50	749.3	29.78	756.4	62.1	16.7	91	NW	7	3	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.65	753.0	29.79	756.6	78.4	25.8	75	Calm	0	0	.....	.....	7n	.....	.....	.....	.....	.....	Physical Observa tory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.75	755.6	29.85	758.1	65.1	18.4	88	SSE	2	1	.....	.....	10s	.....	.....	Blank	Blank	.....	
Nikolaiévsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	74.3	23.5	53	SE	5.5	2.44	.....	.....	5k	.....	.....	0	0	½ Covered...	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.20	767.0	30.25	768.4	68.5	20.3	69	NW	4.1	1.85	.....	2	8	W	.....	0.031	0.8	Coverd	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.25	692.1	.....	.....	70.9	21.6	45	SW	6.8	3.06	.....	.....	6	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.92	709.1	30.00	762.0	71.2	21.8	29	NW	4.5	2.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.93	760.1	30.07	763.7	88.9	31.6	52	ENE	4.8	2.14	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.35	745.5	30.23	767.7	69.4	20.8	76	NW	5.6	2.5	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.03	762.8	30.10	764.5	82.2	27.9	79	ENE	2.2	1.0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.89	759.2	81.6	27.5	88	E	0	0	.....	2c	4kn	W	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.05	763.3	30.15	765.8	78.6	25.9	62	WSW	10.1	4.5	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	30.03	762.7	30.12	765.0	81.7	27.6	66	SE	6.6	2.97	.....	2s	2k	SE	SE	0	0	Clear	Leonardo deTejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower	Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Haparanda	29.40	746.7	29.44	747.7	61.2	16.2	....	SW			2		5			0	0		
Umea	29.43	747.5	29.48	748.8	63.0	17.2	57	SW			2		1			0	0		
Hernosand	29.41	747.0	29.46	748.3	68.7	20.4	76	SSE			4		1			0.079	2.0		
Stockholm	29.26	743.2	29.44	747.7	65.1	18.4	54	S			4		4			0	0		
Wisby	29.42	747.2	29.48	748.7	63.0	17.2	70	W			6		5			0.024	0.6		
SUB-SERIES.																			
Upsala	29.32	744.8	29.41	747.0	63.7	17.6	68	SSW	8.7	3.9			5	SW	SSE	0.345	8.76		Nils Ekholm.
NAVAL SERIES.																			
Corvette Saga, N. 37° 38′, W. 13° 16′			30.82	770.0	67.1	19.5		NE			8		3					Blue sky	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Bar. corr. Inches	Bar. corr. Millimeters	Bar. red. Inches	Bar. red. Millimeters	Fahrenheit	Centigrade	Per cent.	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er 0—10	Clouds Low'r 0—10	Upper From—	Lower From—	Rain Inches	Rain Millimeters	Weather	Observer
Geneva	28.61	726.8	30.04	763.1	52.5	11.4	83	SW			2		10			0.260	6.6	Raining	The Observatory.
Zurich	28.31	719.2	29.94	760.4	59.0	15.0	77	W			4		5		SW	0.394	10.0	Rainy	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, -0.7 mm.; Thermometer,—11.0 Cent.; Relative Humidity, —30 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Bar. corr. Inches	Bar. corr. Millimeters	Bar. red. Inches	Bar. red. Millimeters	Fahrenheit	Centigrade	Per cent.	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er 0—10	Clouds Low'r 0—10	Upper From—	Lower From—	Rain Inches	Rain Millimeters	Weather	Observer
Constantinople			29.72	754.8	80.2	26.8	59	SE	3	1.5			0			0	0		The Observatory.
Fao, Persian Gulf																			
Valona			29.93	760.1	89.2	31.8		S			2		0			0	0	Clear	A. Bertrand.
SUB-SERIES.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.7	91.4	33.0	57	SW			3		7ks		SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

STATIONS.	Bar. corr. Inches	Bar. corr. Millimeters	Bar. red. Inches	Bar. red. Millimeters	Fahrenheit	Centigrade	Per cent.	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er 0—10	Clouds Low'r 0—10	Upper From—	Lower From—	Rain Inches	Rain Millimeters	Weather	Observer
Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.52	749.8	29.58	751.3	64	17.8	78	NW	7	3.1		2k	8ks	NW	NW	0.84	21.3	Cloudy	W. R. Bigg.
Chatham, N. B	29.51	749.5	29.55	750.6	64	17.8	77	W	4	1.8		2cs	2s		W	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island																			H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.5	29.70	754.4	64.7	18.2	92	W			1	0	8s			0.812	20.62	Cloudy	James Smith, M. A.
Dalhousie, N. B	26.42	747.8	29.58	751.3	59.3	15.2	82	W			2		9ks			0.15	3.8	Clearing	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.60	751.8	29.62	752.3	51	10.6	86	SW	20	8.9		10k	0	W		0.08	2.0	Cloudy	J. McWilliams.
Fredericton, N. B	29.58	751.3	29.65	753.1	65.0	18.3	63	NW	7	3.1		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.96	735.6	29.74	755.4	68	20.0	70	Calm	0	0		0	0			0	0	Clear	James Stewart.
Granton, Ontario	28.79	731.3	29.84	757.9	71	21.7	90	NW			2	0	0			0	0	Clear	James Grant.
*Halifax, N. S	29.50	749.3	29.60	751.8	66	18.9	80	NW	5	2.2		0	2ks		NW	0.021	0.54	Fair	F. Allison, M. A.
Hamilton, Ontario	29.52	749.8	29.87	758.7	72.3	22.4	81	NW			1	10cs	0	NW		0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.46	748.3	29.78	756.4	69	20.6	77	W	7	3.1		2c	0	Calm		0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.41	747.0	29.44	747.8	58.7	14.8	65	W	6	2.7		3c	0			1.12	28.4	Fair	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.52	749.8	29.71	754.6	67	19.4	74	NW	4	1.8		5k	0			0.08	2.0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.77	756.1	72	22.2	71	W	2	0.9		5ck	2ks	W	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.08	738.6	29.79	756.7	73.7	23.2	75	W			3		9ks			0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.20	741.7	29.86	758.4	71	21.7	95	N	5	2.2		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S	29.46	748.3	29.51	749.5	58.5	14.7		Calm	0	0						0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.26	743.2	29.87	758.7	70	21.1	92	SW	5	2.2		5ck	0	W		0.05	1.3	Fair	M. Payne.
*Quebec, Quebec	29.40	746.7	29.71	754.6	60	15.6	77	NW			1	2cs	2s	NW	NW	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.33	745.0	29.77	756.1	60	15.6	94	Calm	0	0			Fog			0.05	1.3	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.58	751.3	29.63	752.6	66	18.9	73	NW			1	0	0			0	0	Clear	Dr. Gove.
St. John, N. B	29.47	748.5	29.62	752.3	66	18.9	59	NW	11	4.9		3c	0			0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.12	739.6	29.80	756.9	71	21.7	79	SE	10	4.5		5cs	2ks		S	0.02	0.5	Cloudy	K. Stewart.
Stayner, Ontario	29.01	736.8	29.75	755.6	75	23.9	55	E	1	0.4		8k	2n	W	SE	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.62	726.9	29.84	757.9	66.8	19.3	96	Calm	0	0		2c;cs	0	NW		0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.48	748.8	29.52	749.8	56	13.3	95	N	6	2.7			10n		N	1.22	31.0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.48	748.8	29.85	758.2	68	20.0	84	W	3	1.3			10n		W	0.01	0.3	Light rain	Magnetic Observatory.
Windsor, N. S	29.55	750.6	29.65	753.1	71.0	21.7	73	Calm	0	0		0	0			0.13	3.3	Clear	Prof. John E. Oram.
Woodstock	28.83	732.3	29.84	757.9	73.4	23.0	84	Calm	0	0		2ck	1ks	N	N	0.04	1.0	Fair	Prof. J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland	29.77	756.1	30.01	762.2	57.0	13.9	75	SE				10k?	10s?			0	0	Threatening	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.55	750.6	29.77	756.1	71	21.7	71	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.15	740.4	29.76	755.9	67	19.4	84	SE	4	1.8	.....	.....	8s	.....	NW	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	45	7.2	92	S	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Atlanta, Georgia	28.88	733.5	29.95	760.7	85	29.4	50	W	8	3.6	.....	0	Haze	....	Calm	0	0	Clear	
Atlantic City, New Jersey	29.83	757.7	29.84	757.9	71	21.7	71	NW	11	4.9	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Augusta, Georgia	29.78	756.4	29.96	761.0	84	28.9	64	NW	1	0.4	.....	5cs	1s	NW	Calm	Inap.	Inap.	Fair	
Baltimore, Maryland	29.86	758.4	29.90	759.4	74	23.3	68	W	7	3.1	.....	2c	Haze	W	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	29.80	756.9	29.82	757.4	76	24.4	60	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	27.96	710.2	29.82	757.4	66	18.9	89	E	12	5.4	.....	10k	0	W	.....	0	0	Cloudy	
Boerne, Texas	28.63	727.2	29.89	759.2	74	23.3	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.16	689.8	30.12	765.0	55	12.8	56	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.57	751 1	29.72	754.9	71	21.7	62	NW	6	2.7	.....	5ck	0	NW	.....	0	0	Fair	
Brackettville, Texas	28.87	733.3	29.81	757.2	78	25.6	65	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.70	729.0	29.64	752.8	68	20.0	90	E	5	2.2	.....	5cs	0	W	.....	0.01	0.3	Fair	
Brownsville, Texas	29.99	761.7	30.04	763.0	81	27.2	78	S	4	1.8	.....	2cs	0	Calm	....	0	0	Clear	
Buffalo, New York	29.18	741.1	29.84	757.9	71	21.7	85	SW	6	2.7	.....	5k	Haze	NW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	74	23.3	32	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.46	748.3	29.73	755.1	68	20.0	79	S	3	1.3	.....	2ck	8ks	W	W	0.22	5.6	Cloudy	
Cairo, Illinois	29.65	753.1	30.01	762.2	87	30.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.44	697.0	30.00	762.0	48	8.9	85	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.86	758.4	29.86	758.4	80	26.7	82	SW	7	3.1	.....	8ck;cs	0	W	....	0	0	Cloudy	
Cape Henry, Virginia	29.89	759.2	29.91	759.7	72	22.2	71	NE	25	11.2	.....	5ck	2s	NW	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.84	757.9	29.86	758.4	81	27.2	87	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.83	757.7	29.86	758.4	71	21.7	80	W	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.28	743.7	29.96	761.0	76	24.4	86	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.85	758.2	29.90	759.4	85	29.4	68	NW	9	4.0	.....	2c	0	Calm	.....	0	0	Fair	
Charlotte, North Carolina	29.12	739.6	29.85	758.9	86	30.0	58	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chattanooga, Tennessee	29.26	743.2	30.01	762.2	83	28.3	64	SW	3	1.3	....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	71	21.7	33	NW	5	2.2	.....	Haze	Haze	..	.....	0	0	Hazy	
Chicago, Illinois	29.17	740.9	29.82	757.4	75	23.9	81	SW	6	2.7	.....	10cs	0	SW	.....	0.17	4.3	Cloudy	
Cincinnati, Ohio	29.36	745.7	29.98	761.5	76	24.4	77	SE	3	1.3	.....	4k	0	NE	....	0.31	7.9	Fair	
Cleveland, Ohio	29.21	741.9	29.89	759.2	73	22.5	76	S	8	3.6	.....	5ck	0	W	.....	0	0	Fair	
Coleman City, Texas	28.24	717.3	29.83	757.7	78	25.6	65	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.15	740.4	29.94	760.5	76	24.4	73	E	2	0.9	.....	2c	Sm'c	Calm	Calm	0.09	2.3	Fair	
Concho, Texas	28.14	714.7	29.74	755.4	77	25.0	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.62	752.3	30.06	763.5	78	25.6	86	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.22	742.2	29.82	757.4	77	25.0	86	S	4	1.8	.....	5cs	0	W	.....	1.60	40.6	Fair	
Deadwood, Dakota	25.21	640.3	.....	.....	75	23.9	52	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.88	733.5	29.99	761.7	81	27.2	70	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.25	742.9	30.00	762.0	80	26.7	74	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.72	627.9	29.94	760.5	69	20.6	56	S	8	3.6	.....	2ck	0	Calm	.....	0.03	0.8	Fair	
Des Moines, Iowa	28.92	734.6	29.74	755.4	78	25.6	73	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Detroit, Michigan	29.22	742.2	29.85	758.2	69	20.6	85	SW	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Dodge City, Kansas	27.34	694.4	29.49	749.0	75	23.9	52	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.13	739.9	29.78	756.4	77	25.0	86	S	5	2.2	.....	5ck	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	29.04	737.6	29.68	753.9	71	21.7	80	Calm	0	0	.....	0	0	.....	.....	1.32	33.5	Clear	
Eagle Pass, Texas	29.24	742.7	29.94	760.5	82	27.8	60	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.57	751.1	29.64	752.8	64	17.8	73	W	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	82	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.26	667.0	.....	.....	63	20.0	47	NW	1	0.4	.....	0	8ks	.....	NW	0.03	0.8	Fair	
Erie, Pennsylvania	29.20	741.7	29.88	758.9	73	22.8	85	W	11	4.9	.....	5k	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.14	740.1	29.76	755.9	70	21.1	85	N	4	1.8	.....	.....	10s	.....	W	0.82	20.8	Cloudy	
Florence, Arizona	28.62	724.4	30.12	765.0	72	22.2	95	E	2	0.9	.....	.....	10n	.....	Calm	0.75	19.1	Light rain	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.73	704.3	.....	.....	61	16.1	94	E	10	4.5	.....	.....	10n	.....	Calm	0.87	22.1	Light rain	
Fort Davis, Texas	25.30	642.6	30.26	768.6	61	16.1	94	SW	7	3.1	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	
Fort Gibson, Indian Ter	29.47	748.5	29.98	761.5	85	29.4	57	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.32	643.1	30.12	765.0	69	20.6	80	W	4	1.8	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Fort Griffin, Texas	28.78	731.0	29.99	761.7	79	26.1	62	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.25	692.1	.....	.....	66	18.9	84	NW	4	1.8	.....	0	2s	.....	Calm	0.09	2.3	Clear	
Fort McKavett, Texas	27.79	705.8	29.62	752.3	74	23.3	59	S	12	5.4	.....	6ck	2s	Calm	Calm	0	0	Fair	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.79	731.3	29.84	757.9	78	25.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.99	710.9	.....	.....	65	18.3	89	NE	3	1.3	.....	.....	8n	.....	Calm	Inap.	Inap.	Light rain	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	63	NW	.....	.....	1	.....	10s	.....	NW	0.05	1.3	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.33	719.6	29.82	757.4	75	23.9	77	S	8	3.6	.....	2ck	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.05	763.3	30.10	764.5	83	28.3	79	SW	4	1.8	.....	0	5ks	.....	SW	0	0	Fair	
Graham, Texas	28.93	734.8	29.93	760.2	78	25.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.24	742.7	29.85	758.2	71	21.7	80	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Threatening	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.07	738.4	29.96	761.0	77	25.0	77	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.18	741.1	29.91	759.7	79	26.1	74	SW	3	1.3	.....	2cs	0	W	.....	0.96	24.4	Clear	
Indianola, Texas	30.07	763.8	30.09	764.3	84	28.9	75	S	7	3.1	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.80	733.8	29.96	761.0	81	27.2	63	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.99	761 7	30.01	762.2	87	30.6	62	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.25	742.9	29.81	757.2	85	29.4	64	SW	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	81	27.2	78	N	4	1.8	.....	0	8ks	.....	NE	0.03	0.8	Cloudy	
Kittyhawk, North Carolina	29.82	757.4	29.84	757.9	79	26.1	78	NW	12	5.4	.....	8k	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	29.06	738.1	30.00	762.0	81	27.2	67	SW	3	1.3	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
La Crosse, Wisconsin	29.03	737.3	29.72	754.9	74	23.3	90	SE	4	1.8	.....	.....	10s	.....	S	0.60	15.2	Cloudy	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	63	17 2	94	Calm	0	0	.....	2ck	2s	Calm	N	Inap.	Inap.	Fair	
Laredo, Texas	29.60	751.8	29.93	760.2	76	24.4	49	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.04	737.6	29.84	757.9	77	25.0	69	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.73	755.1	30.07	763.8	81	27.2	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.66	753.4	30.00	762.0	60.0	15.6	82	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.43	747.5	29.96	761.0	80	26.7	70	SW	2	0.9	.....	0	Sm'c	.....	Calm	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.29	744.0	29.92	760.2	78	25.6	69	N	1	0.4	.....	10c	0	NW	.....	0.11	2.8	Fair	
Madison, Wisconsin	28.82	732.0	29.74	755.4	75	23.9	90	NW	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Marquette, Michigan	29.06	738.1	29.72	754.9	67	19.4	84	N	4	1.8	....	.....	10s	.....	N	0.29	7.4	Cloudy	
Mason, Texas	28.44	722.4	30.12	765.0	77	25.0	61	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.73	755.1	30.05	763.3	86	30.0	65	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.08	738 6	29.77	756.1	74	23.3	90	N	15	6.7	.....	.....	10n	.....	N	Inap.	Inap.	Thunder-storm	
Mobile, Alabama	30.05	763.3	30.09	764.3	80	26.7	70	NW	6	2.7	.....	8c	0	Calm	.....	0	0	Fair	
Montgomery, Alabama	29.86	758.4	30.08	764.0	81	27.2	70	W	4	1.8	.....	5k	0	W	....	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Morgantown, West Virginia	29.02	737.1	29.96	761.0	72	22.2	76	Calm	0	0	.....	.....	10ks	.....	Calm	0.04	1.0	Cloudy.....	
Mt. Washington, N. H.	23.62	599 9	29.98	761.5	45	7.2	92	NW	43	19.2	.....	.....	Fog	.....	NW	0.10	2.5	Foggy.....	
Nashville, Tennessee	29.51	749.5	30.01	762.2	89	31.7	66	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
New Haven, Connecticut	29.66	753.4	29.77	756.1	76	24 4	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	29.72	754.9	29.76	755.9	77	25.0	57	W	1	0.4	.....	1ck	0	NW	.....	0	0	Clear.....	
New Orleans, Louisiana	30.07	763.8	30.13	765.3	82	27.8	71	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Newport, Rhode Island	29.69	754.1	29.74	755.4	74.6	23.6	69	NW	4	1.8	.....	5c	0	NW	.....	0	0	Fair.....	
New York, New York	29.63	752.6	29.80	756.9	74	23.3	59	W	8	3.6	.....	1cs	Haze	Calm	Calm	0	0	Clear.....	
Norfolk, Virginia	29.84	757.9	29.90	759.4	78	22.8	72	NE	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy.....	
North Platte, Nebraska	26.85	682.0	29.23	742.4	73	22.8	45	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	55.6	13.1	10	S	3	1.3	.....	.....	10n	.....	SW	0.01	0.3	Light rain...	
Omaha, Nebraska	28.63	727.2	29.63	752.6	83	28.3	53	S	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York	29.50	749.3	29.81	757.2	66	18.9	89	W	10	4.5	.....	2c	Haze	W	Calm	0	0	Fair	
Pembina, Dakota	28.89	733.8	29.68	753.9	62	16.7	88	Calm	0	0	.....	5c	0	W	.....	0	0	Fair.....	
Philadelphia, Pa	29.80	756.9	29.85	758.2	73	22.8	67	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.77	730.7	30.50	774.7	77	25.0	36	NE	3	1.3	.....	.....	10ks	.....	SW	0.36	9.1	Cloudy.....	
Pike's Peak, Colorado	18.00	457 2	30.22	767.6	40	4.4	56	NE	12	5.4	.....	0	0	.....	.....	0.22	5.6	Clear.	
Ploche, Nevada	.....	.....	.....	.....	55	12.8	22	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.18	741.1	29.96	761.0	65	18.3	89	W	5	2.2	.....	.....	10s;fg	.....	Calm	0.07	1.8	Cloudy.....	
Fort Huron, Michigan	29.20	741.7	29.88	757.7	72	22.2	80	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Portland, Maine	29.64	752.8	29.69	754.1	70	21.1	70	NW	4	1.8	.....	5k	0	Calm	.....	0	0	Cloudy.....	
Portland, Oregon	30.01	762.2	30.08	764.0	59.0	15.0	82	S	9	4.0	.....	.....	10s	.....	SW	0.01	0.3	Fair..	
Prescott, Arizona	24.82	630.4	30.18	766.6	63	17.2	78	SW	.....	.....	1	2k	0	W	.....	Inap.	Inap	Threatening	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fair	
Punta Rassa, Florida	30.08	764.0	30.10	764.5	82	27.8	75	NW	9	4.0	.....	5cs;k	0	W	.....	0	0	Fair.....	
Red Bluff, California	29.55	750.6	29.90	759.4	70	21.1	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.84	757.9	30.04	763.0	84	28.9	64	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.23	742.4	29.81	757.2	72	22.2	71	W	13	5.8	.....	0	1s	.....	Calm	0.09	2.3	Clear.....	
Roseburg, Oregon	29.55	750.6	30.12	765.0	59	15.0	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	29.82	757.4	29.90	759.4	63	17.2	62	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.40	746.7	29.94	760.5	82	27.8	67	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida	30.04	763.0	30.06	763.5	81	27.2	78	NW	8	3.6	.....	8c;cs	0	SE	.....	0	0	Fair.....	
St. Paul, Minnesota	28.85	732.8	29.62	752.3	73	22.8	85	E	6	2.7	.....	5cs	0	W	.....	1.10	27.9	Fair.....	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	66	18.9	29	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.38	746.2	29.95	760.7	78	25.6	78	SE	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy.	
San Diego, California	29.92	760.0	30.00	762.0	61	16.1	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.27	743.4	29.91	759.7	73	22.8	81	SW	9	4.0	.....	1c	0	N	.....	0.04	1.0	Clear.....	
Sandy Hook, New Jersey	29.77	756.1	29.80	756.9	73	22.8	72	W	13	5.8	.....	1ck	0	Calm	.....	0	0	Clear.....	
San Francisco, California	29.89	759.2	29.95	760.7	54	12.2	87	SW	12	5.4	.....	0	Fog	.....	W	0	0	Clear...	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	55	12.8	68	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear.	
Savannah, Georgia	29.88	758.9	29.97	761.2	82	30.0	58	W	6	2.7	.....	5c	Haze	Calm	Calm	0	0	Fair...	
Shreveport, Louisiana	29.90	759.4	30.11	764.8	81	27.2	78	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.88	758.9	29.92	760.0	85	29.4	83	W	4	1.8	.....	1c	Haze	NW	Calm	0	0	Clear.....	
Socorro, New Mexico	25.43	645.9	29.50	749.3	68	20.0	70	S	4	1.8	.....	1c	0	.....	.....	0.53	13.5	Clear.	
Springfield, Ill	29.29	744.0	29.95	760.7	82	27.8	55	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Springfield, Massachusetts	29.92	752.3	29.74	755.4	72	22.2	71	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	26.86	682.2	29.86	758.4	74	23.3	5	S	12	5.4	.....	.....	10ks	.....	E	Inap.	Inap.	Cloudy.....	
Thatcher's Island, Mass	29.70	754.4	29.75	755.6	66	18.3	78	SW	5	2.2	.....	5k	0	SW	.....	0	0	Fair.....	
Toledo, Ohio	29.25	742.9	29.90	759.4	71	21.7	85	W	6	2.7	.....	.....	Fog	.....	SW	0.04	1.0	Foggy.....	
Tucson, Arizona	27.57	700.3	30.12	765.0	78	25.6	73	Calm	0	0	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy.....	
Umatilla, Oregon	29.62	752.3	30.10	764.5	63.0	17.2	78	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.12	739.6	29.91	759.7	76	24.4	73	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.89	759.2	30.13	765.3	82	27.8	71	SW	7	3.1	.....	Haze	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.30	617.2	29.78	756.4	54	12.2	48	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.52	749.8	29.89	759.2	59	15.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.79	756.7	29.90	759.4	72	22.2	71	NW	7	3.1	.....	0	1s	.....	Calm	0.05	1.3	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	78	25.6	54	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.82	757.4	29.89	759.2	82	27.8	82	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	26.70	652.8	30.06	763.5	49	9.4	51	SW	8	1.3	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Mass	29.68	753.9	29.72	754.9	71	21.7	71	NW	5	2.2	.....	5ck	0	Calm	.....	0	0	Clear.....	
Yankton, Dakota	28.41	721.6	29.60	751.8	77	25.0	65	S	7	3.1	.....	0	0	.....	.....	0	0	Fair.....	
Yuma, Arizona	29.75	755.6	29.91	759.7	80	26.7	74	SE	5	3.6	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba. W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A	25.32	643.1	.....	.....	66.0	18.8	86	Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I	29.97	761.2	30.05	763.3	81	27.2	.....	E	.....	.....	0	.....	10n	.....	.....	0	0	.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.05	763.3	30.05	763.3	78	25.6	91	E	.....	.....	2	5ck	5k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	½ Clouded..	C. J. Hering.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bracketville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,623 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,500 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.458 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.23 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 6.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.15‡	765.8‡	.....	.....	82	27.8	91	NW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N. H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.79‡	756.7‡	.....	.....	77.5	25 3	86	Calm	.....	.....	0	.....	3ks	.....	SW	0	0	.....	.....	Fair.....	
Adams. N. 22° 58′, W. 109° 20′....	29.99‡	761.7‡	.....	.....	79	26.1	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	8mooth	.....	Fair.....	
Alliance. Antwerp, Belgium.....	29.67‡	753.6‡	.....	.....	68	14.4	82	WSW	.....	.....	3-4	.....	10	.....	W	.....	.....	.....	.....	Squally.....	
Ashuelot, Yokohama, Japan	29.76‡	755.9‡	.....	.....	79	26.1	86	SSW	.....	.....	1	.....	2	.....	Calm	.....	.....	8mooth	.....	Clear.....	
Colorado. New York, N. Y.....	29.77‡	756.1‡	.....	.....	74	23.3	63	NW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constellation. Bar Harbor, Mt. Desert, Me.	29.67‡	753.6‡	.....	.....	60	15.6	76	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Constitution. League Isl. Navy Yard, Pa.	29.86‡	758.4‡	.....	.....	71	21.7	80	WNW	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	Clear.....	
Enterprise. Copenhagen, Denmark..	29.39‡	746.5‡	.....	.....	60	15.6	82	SSW	.....	.....	2-3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin. Norfolk, Va.....	29.91‡	759.7‡	.....	.....	73	22.8	72	NE	12	5.4	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Hartford Montevideo, Uruguay....	30.10‡	764.5‡	.....	.....	52	11.1	79	N	3	1.3	.....	.....	5?	.....	.....	0	0	.....	.....	Cloudy?.....	
Independence, Mar I'd. Navy Yard, Cal.	29.88‡	58.9‡	.....	.....	64	17.8	73	WSW	6	2.7	.....	.....	7?	.....	WSW	.....	.....	.....	.....	Cloudy?.....	
Kearsarge. N. 40° 00′ W. 56° 00′.....	29.64‡	752.8‡	.....	.....	71	21.7	90	SSW	.....	.....	2	.....	2	.....	SSW	.....	.....	Mod'ate	SSW	Fair.....	
Michigan, Erie, Pa.....	29.83‡	757.7‡	.....	.....	73	22.8	85	SW	.....	.....	6	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Monocacy. Shanghai, China.....	29.79‡	756.7‡	.....	.....	84	28.9	87	SSE	.....	.....	2	.....	2	.....	SSE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan.....	29.73‡	755.1‡	.....	.....	74	23.3	??	W	.....	.....	0-1	.....	k	.....	.....	0	0	.....	.....	Hazy.....	
New Hampshire. Port Royal, S. C.....	29.92‡	760.0‡	.....	.....	86	30.0	64	NW	12	5.4	.....	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Onward, Callao, Peru.....	29.25‡	742.9‡	.....	.....	61	16.1	88	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Shanghai, China.....	29.83‡	757.7‡	.....	.....	81	27.2	87	S	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	75	23.9	72	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	30.08‡	764.0‡	.....	.....	61	16.1	94	NNW	4	1.8	.....	.....	10	.....	.....	0	0	8mooth	W	Cloudy.....	
Portsmouth. N 41° 33′, W. 69° 40′.....	29.73‡	755.1‡	.....	.....	68	20.0	79	NNW	.....	.....	3	.....	2	.....	Calm	0	0	8mooth	.....	Clear.....	
Powhatan. Vineyard Haven, Mass	29.77‡	756.1‡	.....	.....	71	21.7	85	WNW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Quinnebaug, Constantinople, Turkey	29.72‡	754.9‡	.....	.....	73	22.8	81	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Hong-Kong, China.....	29.71‡	754.6‡	.....	.....	78	25.6	95	SW	.....	.....	2-3	.....	8	.....	Calm	.....	.....	8mooth	Calm	Raining.....	
Richmond, Yokohama, Japan.....	29.74‡	755.4‡	.....	.....	80	26.7	91	Calm	.....	.....	0	.....	2	.....	.....	0.1	3.	8mooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	30.04‡	763.0‡	.....	.....	81	27.2	87	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Santee, Annapolis, Md.....	29.92‡	760.0‡	.....	.....	74	23.3	90	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Saratoga. New York City, N. Y....	29.82‡	757.4‡	.....	.....	74	23.3	76	NW	.....	.....	4	.....	2	.....	Calm	0	0	.....	.....	Squally.....	
St. Louis, League Island, Pa.....	29.87‡	758.7‡	.....	.....	72	22.2	90	W	13	5.8	.....	.....	2	.....	NNW	0	0	.....	.....	Clear.....	
Trenton, Antwerp, Belgium.....	29.67‡	753.6‡	.....	.....	68	14.4	86	WNW	.....	.....	3	.....	10	.....	SW	0.03	0.8	8mooth	.....	Cloudy.....	
Tuscarora, Mare Island Navy Yard, Cal	29.96‡	761.5‡	.....	.....	69	15.0	94	SW	.....	.....	4	.....	1	.....	SW	0	0	8mooth	.....	Clear.....	
Vandalia, New London, Conn.....	29.76‡	755.9‡	.....	.....	72	22.2	76	NW	.....	.....	1	.....	5	.....	NW	0	0	8mooth	.....	Fair.....	
Wabash, Boston, Mass.....	29.63‡	752.6‡	.....	.....	72	22.2	68	NW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Wyoming, Tr este, Austria.....	29.72‡	754.9‡	.....	.....	74	23.3	40	ENE	.....	.....	3	.....	5	.....	E	.....	.....	8mooth	E	Fair.....	
Wachusett, Vicksburg, Miss.....	30.07‡	763.8‡	.....	.....	79	26.1	82	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made and apparently the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal. †		29.96‡	761.0‡	57	13.9		Calm			0		0			0			Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 32° 38′, W. 135° 54′		30.12‡	765.0‡				N			1		10		N			NW	Dull	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			
S. S. Gaelic, Capt. Davidson, Yokahama, Japan †		29.79‡	756.7‡	80	26.7		SE			2		ks		SE	0	Smooth		Overcast	D. A. Joyce, 2nd Officer.
S. S. Oceanic, Capt. J. Metcalf, N. 32° 59′, E. 135° 01′		30.82‡	767.4‡	61	27.2	91	W			4		0				Smooth		Blue sky	J. A. Thompson, C. O.
																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Unddtsch.
S. S. Leipzig, Capt. F. Peifer, N. 49° 11′, W. 29° 17′		30.10‡	764.5‡	58.5	14.7	88	SSW			3		10			12h'rs	Smooth	SW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.61‡	752.1‡				SW			5		8		SW				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.73‡	755.1‡	74	23.3	86	NW			4		5†		NW	0			Clear†	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 26° 25', W 83° 42'		30.14†	765.6‡	83	28.3	75	NW	4	1.8			5k		NW	0	Smooth		D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

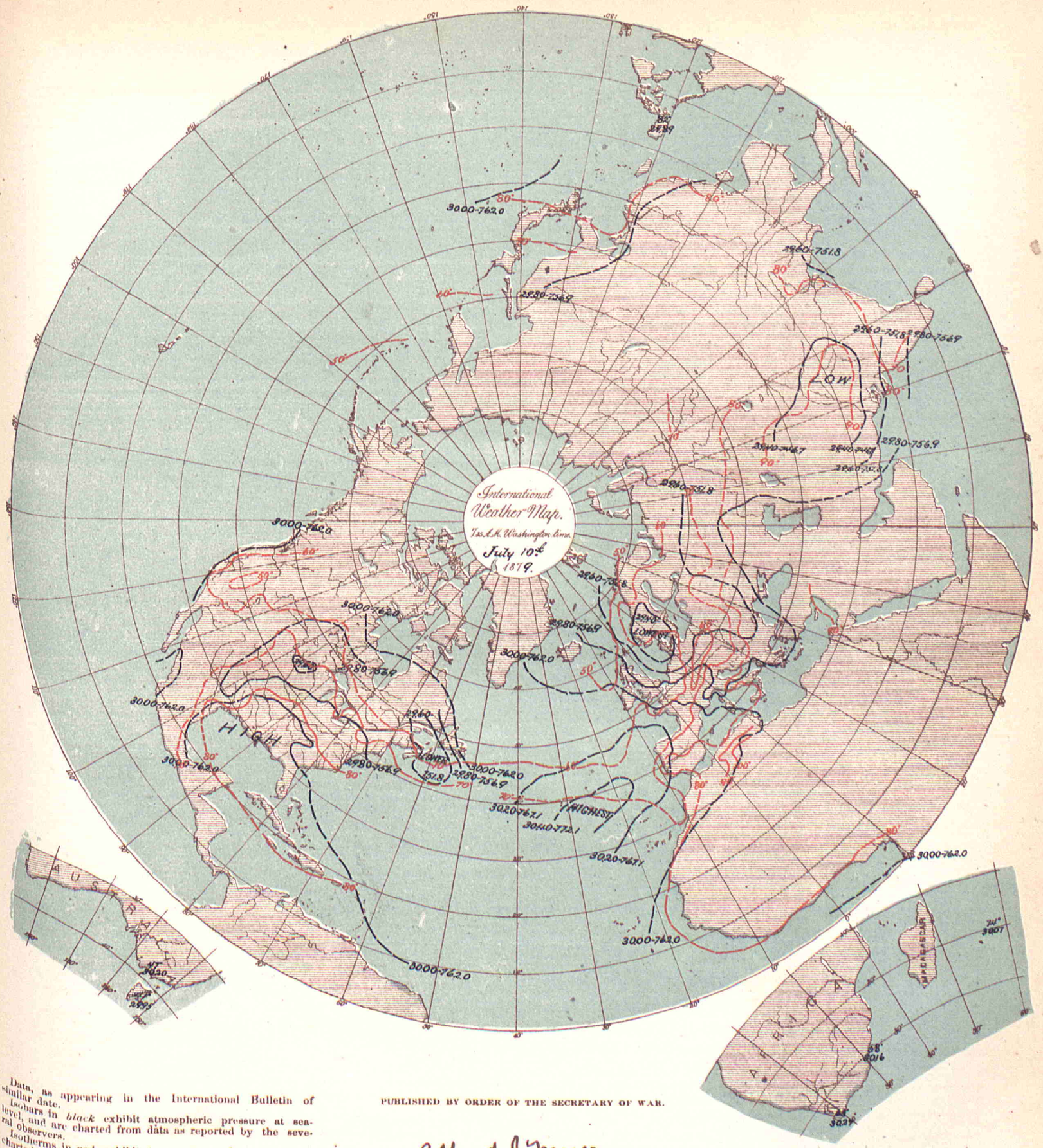
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 11, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.01	762.3	72.3	22.4		E			1		5			0	0	Cloudy	
Nemours			30.12	765.1	79.5	26.4	59	N			1		0			0	0	Clear	Kesxuche.
Algiers			30.10	764.4	75.9	24.4	75	NE			2		0			0	0	Clear	Tourillere.
La Calle			30.13	765.4	81.1	27.3	73	NNW			3		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax																			Grau.
Saida			30.18	766.5															
Tebessa			30.06	763.6	88.2	31.2	20	NW			3		0			0	0	Clear	Herbin.
Geriville			30.12	765.0	77.0	25.0	49	N			5		0			0	0	Clear	Watrin.
Laghouat			30.07	763.7	79.7	26.5	33	N			3		0			0	0	Clear	Brugniaux.
Biskra			30.05	763.2	90.0	32.2	33	NE			4		0			0	0	Clear	Bertrand.
			30.08	763.9	94.3	34.6	27	E			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.33	744.9	29.85	758.3	72.5	22.5	60	S			4	4				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.6	29.75	755.6	64.0	17.8	55	SW			4	10				0.008	0.2		Dr. Wierzbiski.
Eperies	28.87	733.2	29.71	754.6	66.7	19.4	64	N			2	08		S		0	0		Julius Mikolik.
Gratz	28.65	727.8	29.87	758.7	65.8	18.8	61	WNW			2	3				0.039	1.0		Andreas Rospini.
Hermannstadt	28.89	721.2	29.76	756.0	71.6	22.0	69	SE			1	6				0.008	0.2		Prof. A. Gottschling.
Kremsmünster	28.61	726.7	29.94	760.4	67.6	14.2	72	WNW			3	8				0.087	2.2		Prof. C. Wagner.
Lemberg	28.75	730.3	29.71	754.7	63.5	17.5	68	W			1	3				0.102	2.6		Dr. T Stanecki.
Pola	29.80	756.8	29.90	759.5	72.9	22.7	49	WNW			2	4				0	0		I.R.HydrographicOffice.
Szathmar	29.39	746.5	29.84	757.9	69.4	20.8	46	SW			3	4				0	0		Julius Csics, S. J.
Szegedin	29.60	751.8	29.87	758.7	69.1	20.6	54	NW			2	5				0.059	1.50		Karl Stancel.
Trieste	29.82	757.5	29.93	760.1	73.2	22.9	48	Calm			0	1				Inap.	Inap.	Almost clear	P. Busin.
Vienna	29.17	741.0	29.92	760.0	64.6	18.1	49	W			4	0				0	0		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.77	756.1	29 87	758.7	54.0	12.2	.....	NNW	19	8.5	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	29.88	758.9	29.90	759.4	57	13.9	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.74	755.4	29.96	761.0	59.8	15.4	.....	W	3	1.3	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.95	760.7	56.7	13.7	.....	W	22	9.8	.....	.....	5	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	.....	.....	29.93	760.2	54.8	12 7	.....	WNW	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.54	750.3	29.94	760.5	55.1	12.8	.....	N	.....	.....	2	.....	10	.....	.....	0,11	2.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	81	27.2	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Raining	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.87	758.7	29.96	761.0	58.0	14.4	.....	NW	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.94	760.5	57.0	13.9	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.86	758.4	29.99	761.7	56.1	13.4	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy	J. Carmell, Sapper, R. E.
Donaghadee	29.93	760.2	29.97	761.2	57	13.9	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.95	760.7	29.98	761.5	60	15.6	.....	WNW	.....	.....	3	.....	6	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.84	757.9	30.07	763.8	61.9	16.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.75	704.8	30.03	762.7	51.6	10.9	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	81	27.2	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.86	758.9	56	13.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.02	762.5	30.08	764.0	77.4	25.2	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.70	754.4	29.90	759.4	54.9	12.7	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.91	759.7	29.92	760.0	56	13.3	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	Showery	G. T. Watson.
Greenwich, Royal Obs'y	29.81	757.2	29.98	761.5	59.0	15.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.87	758.7	30.08	764 0	58.5	14.7	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.99	761.7	30.10	764.5	63	17.2	.....	SW	.....	.....	4	.....	4k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.97	761.2	29.98	761.5	59	15.0	.....	WSW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.85	758.2	30.14	765.5	59.2	15.1	.....	WNW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.96	761.0	30.00	762.0	58.0	14.4	.....	W	11	4.9	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.71	754.6	29.96	761.0	55.0	12.8	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.83	757.7	29.91	759.7	77	25.0	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.78	756.4	29.87	758.7	55	12.8	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.06	763.5	84.8	29.3	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.78	756.4	29.96	761.0	58.8	14.9	.....	SW	.....	.....	2	.....	10k	.....	WNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.44	747.8	29.96	761.0	58.9	14.9	.....	NW	.....	.....	4	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.00	762.0	57	13.9	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.99	761.7	30.07	763.8	61.6	16.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Prince Town	28.61	726.7	30.08	764.0	51.1	10.6	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Raining	W. H. Tooker.
*Roche's Point	29.93	760.2	30.03	762.7	58	14.4	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.76	755.9	30.02	762.5	56	13.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.86	758.4	52.9	11.6	.....	NNW	20	8.9	.....	.....	10	.....	.....	.....	.....	Light clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.67	751.1	29.63	752.6	91.0	32.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.67	753.6	29.95	760.7	60.4	15.8	.....	WNW	.....	.....	3	.....	9	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.89	759.2	29.92	760.0	59.5	15.3	66	Calm	.....	.....	0	.....	8	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.95	760.7	53.2	11.8	.....	W	14	6.3	.....	.....	10	.....	.....	.....	.....	Gloomy	Rev. S. J. Perry.
Stratfield, Turgiss	29.79	756.7	30.01	762.2	54.9	12.7	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.05	763.3	30.06	763.5	63	17.2	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.94	760.5	29.96	761.0	58.5	14.7	.....	W	15	6.7	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.21	767.3	30.25	768.3	63.4	17.4	59	S	12.6	5.7	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.25	768.3	41	5.0	73	W	.....	.....	2	.....	5k	.....	.....	0.01	0.3	.....	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.83	757.7	56.3	13.5	.....	NW	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.82	757.4	30.01	762.2	75.2	24.0	68	SW	3.5	1.6	.....	0	8	.....	.....	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	30.35	770.9	30.44	773.2	48.9	9.4	90	Calm	0	0	.....	.....	9	.....	.....	0.02	0.5	Drizzling	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.92	760.0	55	12.8	.....	N	.....	.....	3	0	0	.....	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.89	759.2	50	10.0	.....	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 45′, E. 28° 45′	.....	.....	29.67‡	753.6‡	79.0	26.1	Calm	.....	.....	0	0	.....	.....	.....	Misty	Capt. W. J. L. Wharton.
Algeria, N. 41° 10′, W. 61° 00′	.....	.....	29.70	754.4	68	20.0	WSW	.....	.....	2	7	S	2	SE	D. clouds	Capt. Wm. Watson.
Agnes Wilson, N. 39° 45′, W. 61° 55′	.....	.....	29.72	754.9	75	23.9	W	.....	.....	4	8	.....	3	WSW	D. clouds	Capt. H. W. Dyke.
Astarte, N. 44° 30′, W. 32° 50′ *	.....	.....	30.10‡	764.5‡	68.8	20.4	SW	.....	.....	4	10	.....	.....	.....	Overcast	Capt. Parson.
Theophane, S. 29° 10′, E. 5° 10′	.....	.....	30.42‡	772.7‡	60	15.6	SE	.....	.....	3	5	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.27	667.2	29.99	761.7	66.2	19.0	93	Calm	.....	.....	0	1c	2s	.....	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.49	749.1	29.54	750.3	54.1	12.3	86	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Rain & hail.	
Fanöe	29.63	752.5	29.65	753.0	55.9	13.3	68	WNW	.....	.....	6	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.96	760.9	30.00	762.0	53.6	12.0	73	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.88	759.0	29.93	760.1	56.1	13.4	98	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	29.92	759.9	29.95	760.8	52.2	11.2	74	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.46	748.3	29.57	751.1	55.6	13.1	86	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.58	751.4	30.13	765.4	61.5	16.4	69	SW	.....	.....	1	.....	8	.....	W	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.91	759.8	30.02	762.6	66.2	19	56	WNW	.....	.....	3	.....	5	.....	E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.76	756.0	30.02	762.5	57.2	14.0	57	NW	.....	.....	5	.....	.....	.....	NW	0.512	13.0	.....	Klein, Commandant.
Avignon, Normal School	30.00	761.9	30.08	763.9	73.4	23	44	N	.....	.....	3	.....	2	.....	N	0	0	Partly cl'dy	Giraud, Director.
Par-sur-Seine	29.54	750.3	30.10	764.4	57.4	14.1	75	W	.....	.....	1	.....	8kn	.....	NW	0.256	6.5	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.87	758.7	30.13	765.2	64.4	18	53	WNW	.....	.....	3	.....	8	.....	NW	0.039	1.00	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.24	742.7	30.13	765.3	60.6	15.9	67	SW	.....	.....	1	.....	10	.....	W	0.224	5.7	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.24	768.2	59.7	15.4	64	W	.....	.....	1	.....	8kn	W	W	0.028	0.7	Very cloudy	Marlot, Director.
Bourges, Normal School	29.59	751.6	30.13	765.4	61.2	16.2	69	NW	.....	.....	1	.....	2ck	W	W	0.020	0.5	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.84	757.9	30.08	764.1	62.6	17.0	73	SW	.....	.....	2	.....	10	.....	SW	.....	.....	Raining	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.78	756.4	30.19	766.7	69.4	20.8	43	NW	.....	.....	5	.....	2	NW	NW	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	30.01	762.3	30.09	764.2	64.8	18.2	59	W	.....	.....	1	.....	.....	.....	W	0.126	3.2	.....	Lair, Director.
Chartres, Normal School	29.54	750.4	30.10	764.5	66.9	19.4	80	W	.....	.....	2	.....	7	.....	E	0.457	11.6	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.73	755.2	30.05	763.2	62.6	17.0	59	W	.....	.....	3	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.80	731.4	30.13	765.3	62.8	17.1	49	W	.....	.....	1	.....	10	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School	29.19	741.5	30.06	763.5	54.7	12.6	86	W	.....	.....	3	.....	8kn	W	W	1.122	28.5	Sprinkling	Dr. Coulet, Director.
Commune de Grésque*	28.94	735.0	30.08	764.0	70.5	21.4	33	NW	.....	.....	5	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.37	746.0	30.13	765.4	59.0	15.0	70	NW	.....	.....	5	.....	8kn	.....	E	0.38	10.	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	30.00	762.0	30.29	769.4	64.8	18.2	62	WSW	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.82	757.4	30.12	765.1	68.0	20	42	WNW	.....	.....	3	.....	5	.....	NW	0.010	0.25	Cloudy	Pourrier, Director.
Lons-Le-Saulnier, N. School	29.24	742.8	30.16	766.0	61.5	16.5	72	S	.....	.....	1	.....	5k	.....	N	0.283	7.20	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.08	764.1	30.18	766.6	63.7	17.6	65	WSW	.....	.....	2	.....	.....	.....	S	0	0	.....	Galxin, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lt. T. Carré, Director.
Marseilles, Observatory	29.68	753.8	30.00	762.1	72.1	22.3	43	NW	.....	.....	6-7	.....	1	.....	.....	0	0	Clear	Galxin, Director.
Mirecourt, Normal School	29.91	756.8	30.05	763.2	57.9	14.4	76	SW	.....	.....	3	.....	10	.....	SW	0.43	11.	Covered	E. Stephan, Director
Mont-Louis	24.98	634.5	30.30	769.5	60.8	16.0	45	NW	16.2	6.7	.....	.....	0	.....	.....	0.1-6	3.2	.....	Barbier, Director
Nismes, Normal School	29.88	759.0	30.08	764.0	74.5	23.6	33	N	.....	.....	5	.....	2	.....	NW	0	0	Slightly cl'dy	M. Cave.
Paris, Montsouris Obs'y	.....	.....	29.78	756.4	55.2	12.9	50	WNW	.....	.....	2	.....	10	.....	NW	0.177	4.5	Raining	M. Boyer, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marie Davy, Director
Pic du Midi (Plantade) H. P	22.70	576.4	.....	.....	43.5	6.4	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	Clear	M. Baylac.
Perpignan	30.04	763.0	30.14	765.6	70.5	21.4	37	NE	18.6	8.3	.....	.....	1	NW	.....	0	0	.....	Gen'l de Nansouty.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Fines.
Puy de Dome (Summit) Obs	25.26	641.7	.....	.....	38.8	3.8	100	W	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Rochefort, Naval Obs'y	30.19	766.7	30.22	767.5	69.4	20.8	58	W	.....	.....	1	.....	5	W	W	0.224	5.7	Foggy	Alluard, Director.
Rouen, Normal School	29.98	761.4	30.07	763.6	61.8	16.0	69	W	.....	.....	2	.....	8	.....	NW	0	0	¼ covered	Lt. E. Decante, Director.
Saint Malo (Port) Obs'y	30.09	764.3	30.12	765.0	63.3	17.4	64	NW	.....	.....	2	.....	8	.....	NW	0.028	0.7	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.80	756.2	30.06	763.4	65.7	18.7	52	NW	.....	.....	2	.....	1	NW	NW	0	0	Clear	Lt. Hercouet, Director.
Tarbes, Normal School	29.21	741.8	30.24	768.2	74.1	23.4	64	W	.....	.....	2-3	.....	8	.....	WNW	0.406	10.3	.....	E. Renou, Director.
Toulouse, Observatory	29.55	750.5	30.28	769.0	64.6	18.1	53	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Tours	29.93	760.3	30.13	765.3	66.6	19.2	45	NW	.....	.....	3	.....	8	.....	.....	0	0	.....	M. Juller Mercadier.
Versailles, Observatory	29.57	751.0	30.06	763.5	64.8	18.2	46	NW	.....	.....	3	.....	6	.....	NW	0	0	.....	Cousin-Marquet.
Villefranche-sur-Saone, N.S.	29.46	748.2	30.17	766.2	61.5	16.4	60	ENE	.....	.....	2	.....	.....	.....	.....	0.094	2.38	.....	Dr. A. Berigny, Director
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	80.6	27	.....	.....	.....	.....	.....	.....	8	.....	SE	0	0	Very cloudy	Nicot, Director
Lyons Obs'y (Park Station)	29.54	750.2	30.16	766.0	63.9	17.7	68	N	.....	.....	1	.....	5	.....	N	0	0	.....	L'Abbe Marchésl.
Nice	.....	.....	29.95	760.7	77.0	25.0	48	S	.....	.....	1	.....	0	.....	.....	0.304	7.72	Cloudy	Ch. André, Director.
Zi-Ka-Wei (near Shanghai)	29.87	758.8	29.90	759.4	82.2	27.9	86	SSE	8.3	3.7	.....	.....	0	.....	.....	0	0	Clear	Dr. A. Nieper, Jr.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marc Dechevrens
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Grésque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:54 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,278 feet; Commune de Grèasque, 322 m., or 1,058 ft.; Puy de Dome, (Summit) 1,467 m., or 4,812 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.4	52.2	11.2	93	W			4		10	W		0.236	6.0	Raining	Prof. Dr. Hoh.
Berlin	29.55	750.6	29.72	754.9	54.7	12 6	91	NW			4		10			0.390	9.9	Raining	Prof. Dr. Arndt.
Breslau	29.26	743.3	29.79	756.7	57.2	14 0	62	W			6		9			0.168	4.02		Royal Universty
Carlsruhe	29.55	750.6	29.97	761.3	57.6	14.2	81	SW			4		9	SW		0.315	8.0		Albert Senz.
Cassel	29.30	744.3	29.91	759.6	55.8	13.2	76	NW			5		8	W		0.028	0.70		Dr. H. Möhl.
Crefeld	29.78	756.2	29.89	759.3	60.8	16.0	55	NW			5		8			0.16	4.		Director Lose.
Emden			29.82	757.5	57.4	14.1	69	NW			3		10			0.177	4.5		Prof. Dr. Prestel.
Frankfort on the Main	29.57	751.1	29.93	760.3	59.0	15.0		WNW			2		8			0.457	11.6		Physical Society.
Freienwalde on the Oder	29.61	752.2	29 65	753.2	61.7	16.5	74	W			5		9ks	W		0.272	6.9		Dr. Assmann.
Friedrichshafen	29.61	726.7	30.03	762.8	59.4	15.2	72	SW			5		10	W		0.043	1.1		M. Wilhelm.
Hamburg	29.66	753.3	29.73	755.1	56.5	13.6	71	WNW			5		10n			0.547	13.9	Squally	Captain F. Hegemann
Kiel	29.64	753.4	29.68	753.9	56.8	13.8	72	W			5		10			0.607	15.43		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.47	748.5	29.55	750.5	64.9	18.3	57	W			3		4			0.197	5.0		Prof. E. Luther.
Köslin			29.51	749.5	56.5	13.6		W			2		3			0.256	6.5		H. Müller.
Leipsic Observatory	29.40	746.8	29.82	757.4	56.8	13.8	60	W			4		10	W		0.209	5.3		Prof. Bruhns, Privy Counselor.
Memel	29.45	748.0	29.50	749.2	64.4	18.0	67	WSW			4		8s						Skalweit.
Munich (München)	28.19	715.9	30.05	763.2	52.0	11.1	86	SW			6		10	SW		0.122	3.1	Rain-squalls	Dr. C. Larg.
Neufahrwasser	29.53	750.0	29.54	750.4	64.8	18 2	63	SSW			4		7			0.016	0.4		A. Lothes.
Posen	29.43	747.6	29.71	754.7	59.7	15.4	68	SW			8		10			0.020	0.5		Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.04	762.9	60.6	15.9	58	W			3		10	W		0.208	5.29	Raining	Imp. University Observatory.
Stuttgart	29.02	737.2	29.96	760.9	57.2	14.0	78	W			2		9	W		0.067	1.7		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.7	29.96	761.0	51.8	11.0	89	W	7	3			10		W	0.059	1.5	Hazy	T. Hopfner.
Wustrow	29.60	751.8	29.62	752.4	58.6	14.8	78	NW			5		10cs			0.197	5.0		E. Schulz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.30	744:2	29.67	753.6	89.8	32.1		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.3	29.47	748.6	85.5	29.7	70	WNW					10		WNW	0	0	Overcast	
Deesa	29.07	738.5	29.54	750.2	88.3	31.3	56	SW					10			0	0	Overcast	
Bombay	29.67	753.6	29.71	754.6	83.3	28.5	86	WSW	19.0	8.5			10			0	0	Overcast	
Poona	27.86	707.7	29.72	755.0	74.0	23.3	89	WSW					10	W	W	0	0	Overcast	
Lahore	28.66	728.0	29.37	746.0	97.2	36.2	44	Calm	3.7	1.6			0			0	0	Blue sky	
Belgaum	27.22	691.4	29.77	756.1	72.3	22.4	87	W	15.0	6.7			9	W	W	0.11	2.8	D. clouds	
Roorkee	28.55	725.0	29.42	747.4	83.8	28.8	81	SE	2.9	1.3			6			0.12	3.0		
Agra	28.87	733.3	29.42	747.2	91.7	33.2	61	Calm								0	0		
Nagpur	28.52	724.5	29.54	750.4	88.2	31.2	49	W	5.6	2.5			5		E	0	0	D. clouds	
Lucknow	29.05	737.8	29.42	747.2	82.3	27.9	91	S	4.0	1.8			10			4.40	111.8	Overcast	
Allahabad	29.14	740.2	29.45	748.0	84.0	29.1	93	Calm	1.6	0.7			10		W	0.46	11.7	Raining	
Patna	29.30	744.1	29.48	748.6	83.5	28.6	83	Calm	1.1	0.5			10			0.11	2.8	Overcast	
Hazaribagh	27.52	698.9	29.51	749.4	78.8	26.0	82	W	10.8	4.8			10			0.13	3.3	Drizzling	
Cuttack	29.40	746.8	29.48	748.8	85.3	29.6	75	SSW	2.0	0.9			7			0.21	5.3	D. clouds	
Calcutta (Alipore)	29.48	748.9	29.51	749.4	82.8	28.2	87	SSW	2.0	0.9			9	W		0	0	D. clouds	
Goalpara	29.12	739.7	29.51	749.5	79.7	26.5	89	Calm	4.1	1.8			8	NE	SW	2.47	62.7	D. clouds	
Chittagong	29.49	748.9	29.68	751.6	82.0	27.8	87	S	3.7	1.6			9			0	0		
Sibsagar	29.20	741.7	29.63	750.0	83.5	28.8	82	SE	2.0	0.9			10	W	W	0.64	16.3	D. clouds	
Jubbulpore	28.16	715.3	29.50	749.2	87.0	30.6	56	NW	7.1	3.2			8		E	0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.51	749.5	29.91	759.6	73 2	22.9	42	S	1.8	0.8	.....	.....	7	.....	.....	0.362	9.2	.....	Prof. Giovanni Clodig.
Milan	29.38	746.3	29.88	759.0	75 6	24.2	25	W	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.78	756.5	29.89	759.2	73.9	23.3	39	SW	3.8	1.7	.....	.....	5	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.6	29.87	758.8	76.8	24.9	21	WSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.74	755.5	29.93	760.3	73.8	23.2	57	SW	6 8	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.76	712.7	29.91	759.6	72.0	22.2	18	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.85	758.3	29.90	759.5	71.6	22.0	50	NE	6.3	2 8	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.66	753.4	29.91	759.8	77.4	25.2	37	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.85	758.2	29.93	760.3	72.7	22.6	53	W	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.75	755.7	29.92	760.0	78.8	26 0	42	W	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.60	751.9	29.85	758.2	76 5	24.7	52	E	18.6	8.3	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.4	29.87	758.7	80.6	27.0	61	NW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.81	757.2	30.00	762.0	72.7	22 6	21	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.3	29 98	761.6	73.0	22.8	45	NW	9.4	4.2	.....	.....	7	WNW	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.84	757.8	29.91	759.6	79.7	26.5	53	NE	9.8	4.4	.....	.....	1	NE	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	746.9	29.96	761.0	75.9	24.4	50	WSW	8.7	3.9	.....	.....	3	S	.....	0	0	.....	Prof. P. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758 4	29.87	758.7	80.8	27.1	72	WSW	6.5	2.9	.....	.....	7s	.....	.....	0.607	15.42	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.96	761.0	78.8	26.0	89	SW	8.8	3.9	.....	.....	4s	.....	.....	0.025	0.63	Clear	S. Takehayashi.
Tokei (Yedo) Observatory	29.67	753.6	29.73	755.1	77.0	25 0	98	WSW	4.2	1.9	.....	.....	10n	.....	.....	0.610	15.49	Heavy rain	The Staff.
Wakayama	29.78	756.4	29.83	757.7	80.7	27.1	81	Calm	0	0	.....	.....	4s	.....	.....	0.105	2.67	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	26.15	688.7	30.16	766.0	59.0	15.0	77	NE	.....	.....	1	.....	10	.....	E	0	0	Covered	Prof. L. Perez.
Leon	24.50	622.3	30.15	765 9	62.6	17.0	85	SE	.....	.....	1	1c	8kn	SE	.....	0.20	5.0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	24.13	587.5	30.12	765.0	56.3	13.5	85	Calm	0	0	.....	10pc	0	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	61.2	16.2	85	Calm	.....	.....	0	1c	4ks	.....	S	0.04	0.9	½ clouded	M. V. de Leon, M. E
Tlacotalpam	29.97	761.2	29.98	761.5	76.8	24 9	95	N	.....	.....	1	0	0	.....	.....	0.008	0.2	Very fine	Prof. M. M. Chàzaro.
San Luis Potosi	24.26	616.1	30.15	765.8	64.0	17.8	71	E	.....	.....	2	4	2	W	E	0	0	Fair	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.60	574.1	30.17	766.2	58.3	14.6	80	Calm	.....	.....	0	1ck	0	SE	.....	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.49	596.6	30.25	768.4	52.3	11 3	85	W	1.3	0.6	.....	8c	0	SE	.....	0	0	Cloudy	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mazatlan	29.72	754.8	30.00	762.1	75 9	24.4	87	SE	.....	.....	1	5	1	.....	.....	0	0	½ clouded	Antonio Guerra y Guerra. F. Quyano, C. E.

NOTE.—The elevation of Guernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft. Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.4 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.98	761.4	29.98	761.4	61.2	16.2	.....	W	.....	.....	4	.....	.....	.....	.....	0.079	2.0	.....	
Groningen	29.78	756.5	29.84	757.9	55.4	13.0	.....	NW	.....	.....	4	.....	.....	.....	.....	0.201	5.1	.....	
Helder	29.81	758.8	29.87	758.8	55.0	12.8	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.01r	0.4	.....	
Hellevoetsluis	29.95	760.6	29.95	760.6	58.8	14.9	65	W	.....	.....	4	.....	.....	.....	.....	0.106	2.7	.....	
Utrecht	29.87	758.7	29.92	759.9	62.6	17.0	62	WNW	.....	.....	4	.....	5	.....	.....	0.031	0.8	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.45	747.9	29.60	749.3	65.5	18.6	73	W	9.8	4.4	.....	.....	4	.....	.....	0.315	8.0	Raining	
Brönö	29.59	751.6	29.63	752.6	52.9	11.6	57	N	27	12	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.34	745.1	29.48	748.7	64.4	18.0	63	WSW	7	3	.....	.....	4	.....	.....	0.075	1.9	.....	
Tromsö	29.50	749.4	29.55	750.5	44.2	6.8	68	W	7	3	.....	.....	9	.....	.....	0.378	9.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.16	766.0	30.35	770.8	71.6	22.0	72	NW	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.07	763.8	68.7	31.5	27	NNE	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.95	760.6	30.03	762.8	84.2	29.0	32	WSW	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.83	757.6	30.17	766.4	80.6	27.0	41	N	11.2	5.0	.....	.....	5	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.1	30.35	770.9	72.0	22.2	51	ENE	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias			.....	A. C. da Silva Costa, Com'd't.
D. Fernando			.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 4° 15', E. 10° 24'	1	SSW	D clouds.....	J.C. M. Cabrate, 1st Lt.
			.....	J. F. R. R. Bastos, Com'd't.
Mindello			.....	
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	1	WNW	D. clouds.....	H. de C. C. e Athayde.
			.....	J.T.d'Oliveria, Com'd't.
Rio Duro			.....	
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	1	N	D. clouds. 5 hr's rain-fall.]	A. A. A. Loureiro.
				F. Teixeira da Silva, Com'd't.
Sá da Bandeira			.....	H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello			.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	2	SW	Overcast. 3 hours rain-fall.]	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.25	743.0	29.66	753.4	62.8	17.1	62	WSW	16	7	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.16	740.7	29.57	751.1	60.4	15.8	77	W	2	1	.....	.....	8	.....	.....	Blank	Blank	Heavy clouds.	Astronomical Obs.
Dorpat	28.88	733.6	29.12	739.6	53.2	11.8	93	SW	18	8	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Welhrauch.
St. Petersburg	29.10	739.1	29.11	739.5	62.1	16.7	73	S	27	12	.....	.....	9n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.09	738.9	29.70	754.4	69.1	20.6	60	W	7	3	.....	.....	10k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.65	753.0	29.72	754.8	83.3	28.5	57	NNW	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.68	753.9	29.70	754.4	83.3	28.5	83	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.12	739.7	29.65	753.2	64.0	17.8	83	SSW	7	3	.....	.....	8ks	.....	.....	.....	.....	Light rain....	Meteorological Obs.
Lugan	29.47	748.4	29.66	753.3	69.6	32.0	31	SSE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.48	748.8	29.50	749.3	68.0	20.0	52	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.38	720.9	29.71	754.6	86.2	30.1	37	SE	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.92	759.9	29.84	757.8	89.1	31.7	28	ESE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.44	747.7	29.87	758.8	90.9	32.7	34	W	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.55	750.6	29.80	756.9	87.8	31.0	51	S	2	1	.....	.....	1k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.95	735.3	29.86	758.5	76.1	24.5	45	Calm	0	0	.....	.....	7c;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.00	711.2	29.43	747.5	92.5	33.6	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.18	741.1	29.65	753.1	72.5	22.5	44	NE	9	4	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.52	749.8	29.80	756.9	76.5	21.4	86	E	4	2	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.72	754.8	29.86	758.4	86.4	26.9	69	Calm	0	0	.....	.....	8cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.75	755.7	29.85	758.2	69.1	20.6	96	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.02	762.5	30.12	765.1	72.5	22.5	56	SE	3.9	1.75	.....	.....	4k	.....	.....	0	0	½ covered..	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.3	30.26	768 7	70.5	21.4	69	NW	2.2	0.99	.....	4	3	NW	.....	0.232	5.9	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	692.8	.....	.....	70.7	21.5	37	N	5.8	2.61	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.95	709.8	30.06	761.4	84.2	29.0	34	NW	1.5	0.67	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.94	760.4	30.08	763.0	86.6	30.0	43	SE	4.2	1.89	.....	1	3	NE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.32	744.7	30.19	766.9	72.3	22.4	61	NE	8.7	3.9	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.03	762.9	30.10	764.5	81.2	27.3	75	Calm	0	0	.....	3c	0	.....	.....	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.8	29.92	760.1	83.0	28.0	79	WSW	0.7	0.3	.....	.....	10n	.....	E	0.008	0.2	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.2	30.10	764.6	79.2	26.2	66	WSW	8.6	3.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.95	760.6	30.04	762.9	82.8	28.2	74	SE	5.3	2.38	.....	2cs	2k	SE	SE	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid is 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.41	747.1	29.45	748 1	65.1	18.4	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.37	746.1	29.43	747.4	63.0	17.2	55	S	.....	.....	4	.....	2	.....	.....	0.008	0.2	.....	
Hernosand	29.40	746.7	29.45	748.0	68.7	20.4	66	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.26	743.2	29.44	747.7	62.6	17.0	65	NNE	.....	.....	4	.....	10	.....	.....	0.008	0.2	.....	
Wisby	29.40	746.8	29.46	748.3	61.2	16.2	77	WNW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.35	745.6	29.44	747.8	64.0	17.8	68	NNE	8.7	3.9	.....	.....	9	.....	NNE	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 29° 32', W. 15° 33'	.....	.....	30.53	770.4	65.7	18.7	.....	ENE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	729.0	30.11	764.7	61.5	16.4	47	WNW	.....	.....	1	.....	8	.....	.....	0.091	2.3	Cloudy	The Observatory.
Zurich	28.44	722.3	30.08	764.1	51.8	11.0	95	SW	.....	.....	2	.....	10	.....	.....	0.213	5.4	Rainy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.5 mm.; Thermometer,—6.1 Cent.; Relative Humidity, —6 per cent. Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.69	754.0	82.8	28.2	54	NNE	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.4	77.9	25.5	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.55	750 6	29.66	753.4	90.1	32.3	57	SW	.....	.....	4	.....	1k	.....	SW	0	0	D. clouds	Prof. C.V. A.Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.57	751.1	29.63	752.6	64	17.8	70	W	3	1.3	.....	2ck	0	W	.....	0.05	1.3	Fair	G. A. Bain.
Charlottetown, P. E. Island	29.57	751.1	29.61	752.1	65	18.3	86	S	7	3.1	.....	0	5s	.....	W	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.49	749.0	29.67	753.6	67.0	19.4	87	NW	.....	.....	1	0	4s	.....	.....	0.010	0.48	Fair	James Smith, M. A.
Dalhousie, N. B	29.45	748.0	29.61	752.1	61.8	16.6	80	W	.....	.....	1	.....	10s	.....	.....	0.50	12.7	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.63	752.6	29.65	753.1	55	12.8	84	SW	15	6.7	.....	2cs	0	Calm	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.66	753.4	66.1	18.9	55	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.91	734.3	29.68	753.9	72	22.2	71	NE	5	2.2	.....	2c	2s	W	W	0.020	0.51	Fair	James Stewart.
Granton, Ontario	28.64	727.4	29.69	754.1	67	19.4	95	S	.....	.....	1	.....	10n	.....	.....	1.53	38.9	Light rain	James Grant.
*Halifax, N. S	29.52	749.8	29.63	752.6	60	15.6	93	Calm	0	0	.....	.....	10ks	.....	.....	0.150	4.57	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.35	745.5	29.70	754.4	71.3	21.8	88	NW	.....	.....	1	10cs	0	NW	.....	0.03	0.8	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.39	746.5	29.71	754.6	68	20.0	88	SE	7	3.1	.....	.....	10ks	.....	E	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.62	752.3	29.66	753.4	57.4	14.1	96	E	2	0.9	.....	5k	0	W	.....	0	0	Foggy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.52	749.8	29.71	754.6	69	20.6	76	NW	2	0.9	.....	2k	2ks	N	.....	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.02	737.1	29.68	753.9	67	19.4	92	SW	4	1.8	.....	.....	10n	.....	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	28.97	735.8	29.69	754.1	69.7	20.9	90	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.02	737.1	29.68	753.9	67	19.4	100	SW	2	0.9	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	H. Morgan.
Port Hastings, N. S	29.56	750.8	29.61	752.1	62.5	16.9	.....	W	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.07	738 4	29.68	753.9	69	20.6	95	SW	2	0.9	.....	2ck	5n	W	W	0.01	0.3	Cloudy	M. Payne.
*Quebec, Quebec	29.40	746.7	29.71	754.6	63	17.2	62	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.26	743.2	29.70	754.4	60	15.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.59	751.0	29.64	752 8	66	18.9	62	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.48	748.8	29.63	752.6	67	19.4	69	N	5	2.2	.....	0	1k	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	28.99	736.3	29.67	753.6	69	20.6	98	S	2	0.9	.....	.....	10s	.....	.....	0.01	0.3	Rain & fog	K. Stewart.
Stayner, Ontario	28.94	735.1	29.68	753.9	71	21.7	90	SE	1	0.4	.....	.....	Fog	.....	.....	0.53	13.5	Foggy	R. J. Cole.
Stratford, Ontario	28.43	722.1	29.64	752.8	66.8	19.3	99	Calm	0	0	.....	.....	10s	.....	.....	0.51	13.0	Light rain	C. J. MacGregor, M. A.
*Sydney, C. B	29.62	752.3	29.66	753.4	60	15.6	87	SW	2	0.9	.....	2ck	5ks	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.32	744.7	29.69	754.1	64	17.8	100	SE	4	1.8	.....	.....	Fog	.....	.....	0.80	20.3	Foggy	Magnetic Observatory.
Windsor, N. S	29.68	751.3	29.68	753.9	65.0	18.3	84	Calm	0	0	.....	1c	1k	.....	.....	0.02	0.5	Fine	Prof. John E. Oram.
Woodstock	28.66	727.7	29.66	753.4	68.6	20.3	99	Calm	0	0	.....	0	10s	.....	.....	0.3	8.	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.44	747.8	29.68	753.9	52.0	11.1	100	E	.....	.....	.....	10k?	10s?	.....	.....	0.65	16.5	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.53	750.0	29.74	755.4	70	21.1	75	N	1	0.4	.....	0	0	.....	.....	0.32	8.1	Clear	
Alpena, Michigan	28.96	735.6	29.56	750.8	68	20.0	95	SE	10	4.5	.....	.....	10n	.....	SW	0 45	11.4	Light rain	
Atcha, Aleutian Is , Alaska	.....	.....	.....	.....	60	10.0	100	SE	15	6.7	.....	.....	10n	.....	SE	0.24	6.1	Cloudy	
Atlanta, Georgia	28.81	731.8	29.88	758.9	84	28.9	61	NW	7	3.1	.....	8k	Haze	NW	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.74	755.4	29.76	755.9	71	21.7	90	S	2	0.9	.....	5k	2s	W	Calm	0.03	0.8	Fair	
Augusta, Georgia	29.71	754.6	29.90	759.4	85	29.4	61	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Baltimore, Maryland	29.76	755.9	29.81	757.2	81	27.2	59	W	9	4.0	.....	2c	2s	NW	NW	0	0	Fair	
Barnegat, New Jersey	29.72	754.9	29.75	755.6	71	21.7	90	W	2	0.9	.....	.....	10s	.....	W	0.15	3.8	Cloudy	
Bismarck, Dakota	28.02	711.7	29.58	758.9	69	20.6	80	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.53	724.6	29.78	756 4	76	24.4	82	S	.....	.....	2	2k	0	S	.....	0	0	Fair	
Boise City, Idaho	26.96	684.8	29.92	760.0	60	15.6	55	NW	3	1.3	.....	5k	0	S	.....	0	0	Clear	
Boston, Massachusetts	29.56	750.8	29.70	754.4	78.5	25.8	52	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.81	731.8	29.78	756.4	80	26.7	74	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.72	729.5	29.66	753.4	65	18.3	94	W	8	3.6	.....	0	0	.....	.....	1.60	40.6	Clear	
Brownsville, Texas	29.91	759.7	29.95	760.7	83	28.3	75	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.01	736.8	29.67	753.6	72	22.2	85	SW	6	2.7	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	10	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.45	748.0	29.72	754.9	67	19.4	79	Calm	0	0	.....	0	5ks	.....	NW	Inap	Inap.	Fair	
Cairo, Illinois	29.53	750.0	29.90	759.4	85	29.4	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.30	693.7	29.06	761.0	48	8.9	85	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.87	758 7	29.88	758.9	79	26.1	78	SW	14	6.3	.....	5cs	Haze	NW	Calm	0	0	Hazy	
Cape Henry, Virginia	29.79	756.7	29.81	757.2	78	25.6	73	SW	16	7.2	.....	5ck	2ks	NW	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.87	758.7	29.89	759.2	81	27.2	83	SW	12	5.4	.....	Haze	0	Calm	.....	0	0	Hazy	
Cape May, New Jersey	29.72	754.9	29.75	755.6	76	24.4	77	W	4	1.8	.....	5c	2ks	NW	NW	0	0	Fair	
Castroville, Texas	29.17	740.9	29.84	757 9	77	25.0	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.81	757.2	29.86	758.4	87	30.6	84	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.08	738.6	29.84	757.9	83	28.3	53	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.16	740.7	29.92	760 0	82	27.8	71	SW	4	1.8	.....	0	Haze	.....	Calm	0.15	3.8	Clear	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	56	13.3	40	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	28.97	735.8	29.60	751.8	83	28.3	64	SW	13	5.8	.....	5k	0	W	.....	0	0	Fair	
Cincinnati, Ohio	29.21	741.9	29.81	757.2	83	28.3	67	W	6	2.7	.....	0	0	.....	.....	0.60	15.2	Clear	
Cleveland, Ohio	29.00	736.6	29.68	753.9	75	23.9	81	SE	10	4.5	.....	0	0	.....	.....	3.30	83.8	Clear	
Coleman City, Texas	28.12	714.2	29.70	754.4	78	25.6	73	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28.94	735.1	29.72	754.9	81	27.2	67	W	6	2.7	.....	0	0	.....	.....	0.61	15.5	Clear	
Concho, Texas	28.02	711.7	29.61	752.1	77	25.0	77	S	3	1.3	.....	5k	0	Calm	.....	0.08	2 0	Fair	
Corsicana, Texas	29.52	749.8	29.97	761.2	76	24.4	86	S	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.03	737.3	29.62	752.3	81	27.2	67	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.39	644.9	.....	.....	62	16.7	72	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.77	730.7	29.87	758.7	79	26 1	62	S	9	4.0	.....	2c	0	Calm	.....	0	0	Fair	
Denison, Texas	29.14	740.1	29.88	758.9	78	25.6	69	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.74	628.4	29.96	761.0	66	18.8	54	NW	4	1.8	.....	0	0	.....	.....	0	0	C ear	
Des Moines, Iowa	28.80	731.5	29.60	751.8	81	27.2	59	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.00	736 6	29.61	752.1	76	24.4	86	SW	5	2.2	.....	5cs	0	Calm	.....	2.16	54.9	Fair	
Dodge City, Kansas	27.23	691.6	29.36	745.7	75	23.9	60	S	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Dubuque, Iowa	28 94	735.1	29.58	751.3	80	26 7	62	SW	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Duluth, Minnesota	29.00	736.6	29.64	752.8	66	18.9	84	W	1	0.4	.....	0	0	.....	.....	0.28	7.1	Clear	
Eagle Pass, Texa	29.15	740.4	29.84	757.9	81	27.2	67	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.68	751.3	29.64	752 8	67	19.4	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	83	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.24	666.5	.....	.....	69	20.6	80	W	12	5.4	.....	0	8s	.....	W	0	0	Fair	
Erie, Pennsylvania	28.98	736.1	29.64	752.8	76	24.4	73	SW	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
Escanaba, Michigan	28.96	735.6	29.57	751.1	68	20.0	90	N	12	5.4	.....	0	5s	.....	NE	0.65	16.5	Fair	
Florence, Arizona	28.43	722.1	30.03	762.7	83	28.3	67	NE	2	0.9	.....	0	0	.....	.....	0.20	5.1	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.76	705.1	.....	.....	64	17.8	83	SW	7	3.1	.....	1ck	0	SW	.....	0.07	1.8	Clear	
Fort Davis, Texas	25.21	640 3	30.17	766.3	65	18.3	84	SW	3	1.3	.....	5c	0	Calm	.....	0.04	1.0	Fair	
Fort Gibson, Indian Ter	29.36	745.7	29.86	758.4	84	28.9	57	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.29	642.4	30.09	764.3	67	19.4	79	NE	2	0.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort Griffin, Texas	28.66	728.0	29.86	758.2	80	26.7	62	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.26	692.4	.....	....	70	21.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.52	749.8	75	23.9	77	S	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.66	728.0	29.70	754.4	78	25.6	54	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.96	710.2	.....	....	65	18.3	89	S	1	0.4	.....	0	0	.....	.....	0.54	13.7	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	72	22.2	67	W	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.21	716.5	29.65	753.9	80	26.7	59	S	7	3.1	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.97	761.2	30.02	762.5	83	28.3	67	SW	8	3.6	.....	0	2ks	.....	SW	0	0	Clear	
Graham, Texas	28.82	732.0	29.81	757.2	80	26.7	59	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	28.97	735.8	29.57	751.1	75	23.9	77	W	13	5.8	.....	0	5s	.....	W	0.37	9.4	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.94	735.1	29.85	757.7	78	25.6	54	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.03	737.3	29.75	755.6	85	29.4	61	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.00	762.0	30.03	762.7	85	29.4	72	S	13	5.8	.....	0	2ks	.....	S	0	0	Fair	
Jacksboro, Texas	28.78	731.0	29.86	758.4	85	29.4	61	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.93	760.2	29.95	760.7	88	31.1	59	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.08	738.6	29.64	752.8	86	30.0	55	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.05	763.3	30.08	764.0	84	28.9	71	W	5	2.2	.....	2ck	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	29.82	757.4	29.86	758.2	79	26.1	74	W	18	8.0	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.98	761.1	29.92	760.0	80	26.7	70	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.55	750.8	29.53	750.0	74	23.3	81	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.05	661 7	30.20	767.1	65	18.3	80	Calm	0	0	.....	0	5s	.....	Calm	0.20	5.1	Fair	
Laredo, Texas	29.48	748.8	29.80	756.9	81	27.2	55	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.93	734.8	29.71	754.6	80	26.7	59	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.63	752.6	29.97	761.2	82	27.8	71	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.63	752.6	29.96	761.0	60.0	15.6	55	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.31	744.5	29.85	757.7	87	30 6	68	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.15	741.1	29.81	757.2	86	30.0	64	SW	1	0.4	.....	1ck	0	N	.....	0	0	Clear	
Madison, Wisconsin	28.63	727.2	29.53	750.0	78	25.6	78	SW	7	3.1	.....	5cs	0	W	.....	0	0	Fair	
Marquette, Michigan	28.94	735.1	29.61	752.1	60	15.6	88	NW	8	3.6	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	
Mason, Texas	28.33	719.6	30.00	762 0	79	26.1	70	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.62	752.3	29.94	760.5	85	29.4	64	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	28.86	733 0	29.52	749.8	79	26.1	74	W	19	8.5	.....	1ck	1ks	W	Calm	0.23	5.8	Clear	
Mobile, Alabama	29.98	761.5	30.02	762 5	83	28.3	71	NW	8	3.6	.....	2k	0	NW	.....	0	0	Fair	
Montgomery, Alabama	29.77	756.1	29.99	761.7	82	27.8	74	W	4	1.8	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER	OBSERVER.
	inches.	illimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Morgantown, West Virginia	28.83	732.3	29.76	755.9	78	25.6	73	SW	2	0.9	.....	0	0	.....	.....	1.11	28.2	Clear.....	
Mt. Washington, N. H.....	23.68	601.5	30.04	763.0	46	7.8	92	N	11	4.9	.....	8k	0	N	.....	0.05	1.3	Fair.....	
Nashville, Tennessee.....	29.42	747.3	29.92	760.0	88	31.1	56	SW	1	0.4	.....	0	Sm'e	.....	.....	0	0	Clear.....	
New Haven, Connecticut.....	29.61	752.1	29.72	754.9	76	24.4	64	N	7	3.1	.....	1ck	0	Calm	.....	0.42	10.7	Clear.....	
New London, Connecticut...	29.68	753.9	29.72	754.9	76	24.4	60	NW	7	3.1	.....	0	0	.....	.....	0.06	1.5	Clear.....	
New Orleans, Louisiana.....	29.98	761.5	30.04	763.0	82	27.8	79	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Newport, Rhode Island.....	29.66	753.4	29.70	754.4	73	22.8	67	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
New York, New York.....	29.57	751.1	29.74	755.4	76	24.4	64	W	2	0.9	.....	5cs	Haze	W	Calm	0.06	1.5	Fair.....	
Norfolk, Virginia.....	29.77	756.1	29.82	757.4	82	27.8	67	SW	8	3.6	.....	0	5s	.....	SW	0	0	Fair.....	
North Platte, Nebraska	26.94	684.3	29.36	745.7	70	21.1	88	E	12	5.4	.....	2ck	0	W	.....	0	0	Clear.....	
Olympia, Washington Ter..	29.66	753.4	29.70	754.4	51.0	10.6	93	W	1	0.4	.....	.....	10n	.....	NW	0.48	12.2	Light rain..	
Omaha, Nebraska.....	28.59	726.2	29.60	751.8	80	26.7	78	NW	8	3.6	.....	5k	0	NW	.....	0	0	Fair.....	
Oswego, New York.....	29.41	747.0	29.72	754.9	69	20.6	90	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pembina, Dakota.....	28.81	731.8	29.60	751.8	65	18.3	94	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.71	754.6	29.75	755.6	74	23.3	86	NW	3	1.3	.....	2ck	5ks	W	Calm	0.34	8.6	Cloudy.....	
Phœnix, Arizona.....	28.72	729.5	30.43	772.9	78	25.6	52	E	2	0.9	.....	0	5ks	.....	S	0	0	Fair.....	
Pike's Peak, Colorado.....	18.00	457.2	30.21	767.3	40	4.4	39	NE	1	0.4	.....	0	0	.....	.....	1.02	25.9	Clear.....	
Pioche, Nevada.....	.....	.....	.....	.....	61	16.1	8	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	28.97	735.8	29.78	755.1	71	21.7	80	SW	4	1.8	.....	0	0	.....	.....	1.35	34.3	Clear.....	
Port Huron, Michigan.....	28.98	736.1	29.60	751.8	70	21.1	90	N	8	3.6	.....	.....	10ks	.....	N	0.09	2.3	Cloudy.....	
Portland, Maine.....	29.66	753.4	29.70	754.4	71	21.7	66	NW	4	1.8	.....	0	Haze	.....	.....	0.02	0.5	Clear.....	
Portland, Oregon.....	29.66	753.4	29.73	755.1	59.6	15.0	91	S	11	4.9	.....	.....	10n	.....	S	0.60	15.2	Light rain..	
Prescott, Arizona.....	24.79	629.6	30.15	765.8	68	14.4	64	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas.....	29.13	739.9	29.89	759.2	92	33.3	57	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida.....	30.05	763.3	30.06	763.5	85	29.4	68	W	10	4.5	.....	5k	0	W	.....	0	0	Fair.....	
Red Bluff, California.....	29.44	747.8	29.78	756.4	71	21.7	45	SE	5	2.2	.....	1cs	0	S	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.74	755.4	29.95	760.7	80	26.7	70	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.13	739.9	29.71	754.6	71	21.7	85	SW	2	0.9	.....	5k	Haze	SW	.....	0.36	9.1	Fair.....	
Roseburg, Oregon.....	29.23	742.4	29.78	756.4	59	15.0	88	W	3	1.3	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Sacramento, California.....	29.75	755.6	29.83	757.7	57	13.9	76	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.27	743.4	29.80	756.9	83	28.3	56	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	29.97	761.2	29.98	761.5	83	28.3	83	NW	12	5.4	.....	1ck	0	Calm	.....	0	0	Clear.....	
St. Paul, Minnesota.....	28.82	732.0	29.60	751.8	69	20.6	84	N	8	3.6	.....	0	2ks	.....	N	0.64	16.3	Fair.....	
Salt Lake City, Utah.....	25.58	649.4	29.86	758.4	71	21.7	25	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas.....	29.27	743.4	29.83	757.7	81	27.2	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.91	759.7	29.98	761.5	60	15.6	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.04	737.6	29.66	753.4	80	26.7	70	SW	13	5.8	.....	1ck	0	NW	.....	0	0	Clear.....	
Sandy Hook, New Jersey....	29.70	754.4	29.78	755.1	74	23.3	86	W	6	2.7	.....	0	5ks	.....	W	0.05	1.3	Fair.....	
San Francisco, California..	29.85	758.2	29.92	760.0	63	17.7	93	NW	10	4.5	.....	.....	Fog	.....	NW	0	0	Foggy.....	
Santa Fé, New Mexico.....	23.31	592.1	29.85	758.2	55	12.8	80	Calm	0	0	.....	1c	0	NE	.....	0.55	14.0	Clear.....	
Savannah, Georgia.....	29.81	757.2	29.90	759.4	87	30.6	55	NW	5	2.2	.....	2ck	Sm'e	W	Calm	0	0	Fair.....	
Shreveport, Louisiana.....	29.78	756.4	29.99	761.7	81	27.2	74	SW	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.89	759.2	29.92	760.0	83	28.3	87	S	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear.....	
Socorro, New Mexico,..	25.38	644.6	29.44	747.8	68	20.0	74	S	2	0.9	.....	0	1s	.....	Calm	0.56	14.2	Clear.....	
Springfield, Ill	29.14	740.1	29.80	756.9	83	28.3	56	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	29.60	751.8	29.72	754.9	75	23.9	68	N	3	1.3	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Stockton, Texas.....	26.86	682.2	29.86	758.4	75	23.9	4	SW	8	3.6	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	
Thatcher's Island, Mass.....	29.70	754.4	29.75	755.6	65	18.3	84	N	7	3.1	.....	2ck	0	Calm	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.00	736.6	29.63	752.6	82	27.8	82	W	12	5.4	.....	2c	0	NW	.....	0.06	1.5	Clear.....	
Tucson, Arizona.....	27.52	699.0	30.06	763.5	77	25.0	72	Calm	0	0	.....	0	8s	.....	Calm	0.01	0.3	Cloudy.....	
Umatilla, Oregon.....	29.33	745.0	29.80	756.9	62.0	16.7	83	E	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Uvalde, Texas.....	29.01	736.8	29.79	756.7	80	26.7	74	E	5	2.2	.....	5k	0	SE	.....	0	0	Fair.....	
Vicksburg, Mississippi.....	29.79	756.7	30.03	762.7	83	28.3	75	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana.....	24.18	614.2	29.66	753.4	55	12.8	39	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.47	748.5	29.83	757.7	58	14.4	61	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.70	754.4	29.80	756.9	78	25.6	65	NW	8	1.3	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy.....	
Wickenburg, Arizona..	.....	.....	.....	.....	76	24.4	84	S	0	0	1	5ck	0	Calm	.....	0	0	Fair.....	
Wilmington, N. Carolina.....	29.80	756.9	29.87	758.7	82	27.8	79	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.56	649.2	29.92	760.0	58	14.4	42	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Wood's Holl, Mass.....	29.66	753.4	29.69	754.1	71	21.7	80	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.49	723.6	29.70	754.4	71	21.7	80	NW	12	5.4	.....	5k	0	W	.....	0	0	Fair.....	
Yuma, Arizona.....	29.69	754.1	29.85	758.2	75	23.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Navassa, W. I.....	25.27	641.8	.....	.....	63.5	17.5	74	Calm	.....	.....	0	0	0	.....	.....	0.11	2.8	.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	29.97	761.2	30.05	763.3	81	27.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	30.03	762.7	30.03	762.7	82	27.8	83	E	.....	.....	3	5k	7ks	E	.....	0.020	0.51	½ clouded..	C. J. Hering.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625(?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,775.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡			83	28.3	83	W	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.73‡	755.1‡			76	24.4	91	Calm			0		7hs		SW	0.05	1.3			Cloudy	
Adams, N. 23° 53′, W. 111° 25′	29.98‡	761.5‡			74	23.3	95	W			2		5		W			Smooth		Fair	
Alliance, Antwerp, Belgium	29.98‡	761.5‡			57	13.9	75	NW			3-4		9							Squally	
Ashuelot, Yokohama, Japan	29.73‡	755.1‡			78	25.6	91	NNW			1		8		NW			Smooth		Cloudy	
Colorado, New York, N. Y.	29.72‡	754.9‡			75	23.9	68	SW	2	0.9			8		S;W	0.02	0.5			Hazy	
Constellation, Bar Harbor, Mt. Desert, Me.	29.68‡	753.9‡			63.7	17.6	62	Calm			0		0			0	0			Clear	
Constitution, League Isl. Navy Yard, Pa.	29.76‡	755.9‡			74	23.3	95	SW			2		9		SW					Cloudy	
Enterprise, Copenhagen, Denmark	29.49‡	749.0‡			59	15.0	82	NW			3-4		6		NW					Cloudy	
Franklin, Norfolk, Va.	29.82‡	757.4‡			79	26.1	74	WSW	9.6	4.3			5		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay	29.94‡	760.5‡			53	11.7	93	N	1	0.4			8?		N	0.25	6.3			Clear?	
Independence, Mar I'd. Navy Yard, Cal.	29.97‡	761.2‡			63	17.2	72	SSW	7	3.1			6?		W					Cloudy	
Kearsarge, N. 40° 29′ W. 53° 30′	29.77‡	756.1‡			71	21.7	75	W			2-3		2		W			Long	W	Fair	
Michigan, Erie, Pa	29.63‡	752.6‡			75	23.9	81	SW			2		5		SW					Fair	
Monocacy, Shanghai, China	29.88‡	758.9‡			85	29.4	91	SSE			1		0							Clear	
Monongahela, Yokohama, Japan	29.72‡	754.9‡			79	26.1	82	N			0-1		n			Light	Light			Misty	
New Hampshire, Port Royal, S. C.	29.91‡	759.7‡			85	29.4	83	W	5	2.2			2		Calm	0	0			Clear	
Onward, Callao, Peru	30.23‡	767.8‡			61.5	16.4	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.90‡	759.4‡			83	28.3	87	Calm			0		2							Fair	
Passaic, Washington, D. C.					80	26.7	78	NE			1		10		SW					Cloudy	
Pensacola, Callao, Peru	30.00‡	762.0‡			61	16.1	94	Calm	0	0			10			0	0	Smooth	W	Cloudy	
Portsmouth, N. 42° 10′, W. 70° 05′	29.70‡	54.4‡			64	17.8	100	S			1		5		Calm	0	0	Smooth		Fair	
Powhatan, N. 43° 31′, W. 70° 08′	29.70‡	754.4‡			64	17.8	78	N			1		0			0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.67‡	753.6‡			79	26.1	91	NNE			2		0							Clear	
Ranger, Hong-Kong, China					78	25.6	100	SSW			2		10		Calm			Smooth	Calm	Cloudy	
Richmond, Yokohama, Japan	29.71‡	754.6‡			78	25.6	95	Calm			0		10			0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.96‡	761.0‡			81	27.2	96	SE			1		0			0	0			Clear	
Santee, Annapolis, Md.	29.79‡	756.7‡			78	25.6	82	WNW			2		8		WNW	0	0			Cloudy	
Saratoga, New York City, N. Y.	29.75‡	755.6‡			72	22.2	85	Calm			0		8		Calm	0	0	Smooth		Misty	
St. Louis, League Island, Pa	29.76‡	755.9‡			76	24.4	86	SW	5	2.2			5		NW	0.72	18.3			Fair	
Trenton, Antwerp, Belgium	29.96‡	761.0‡			59	15.0	70	NW			2		8		WSW	0	0	Smooth		Cloudy	
Tuscarora, Mare Island Navy Yard, Cal	29.94‡	760.5‡			67	13.9	94	SSW			2		6		SSW	0	0	Smooth		Clear	
Vandalia, New London, Conn.	29.72‡	754.9‡			74	23.3	52	N			2		0			Blank	Blank	Smooth		Clear	
Wabash, Boston, Mass.	29.70‡	754.64‡			74	23.3	63	NW	4	1.8			0			0	0			Clear	
Wyoming, Trieste, Austria	29.90‡	759.4‡			69	20 6	48	Calm			0		2					Smooth		Clear	
Wachusett, Vicksburg, Miss.	29.97‡	761.2‡			81	26.2	78	SW			2		2		SW					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S.S.Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 7° 18', W. 80° 19'....†		30.00‡	762.0‡	79	26.1	100	W			2		8		W	0	Small	con-fused	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse, N. 39° 35', W. 124° 08'....†		29.96‡	761.0‡	57	13.9		NW			6		5?		NW		Long	NW	Raining	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 30° 11', W. 140° 17'		30.16‡	766.1‡				NE			1				NE		Mod'ate	NW	Dull	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Yokahama, Japan....†		29.81‡	757.2‡	77	25.0		SE			2		ks			Slight	Smooth		Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 31° 06', E. 180° 59'....		29.88‡	758.9‡	81	27.2	87	W			4		2		W		Smooth		D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipsig, Capt. F. Peiffer, N. 42° 54', W. 38° 57'		30.07‡	763.8‡	63.5	17.5	67	W			2		8		W	0	Smooth	W	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.77‡	756.1‡				NNW			6		8		N				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipsig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.85‡	758.2‡	80	26.7	87	NW			3		5		NW	0			Cloudy?	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 25° 18', W 83° 17'		30.12‡	765.0‡	83	28.3	79	WSW	7	3.1			2k		SW	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Howe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

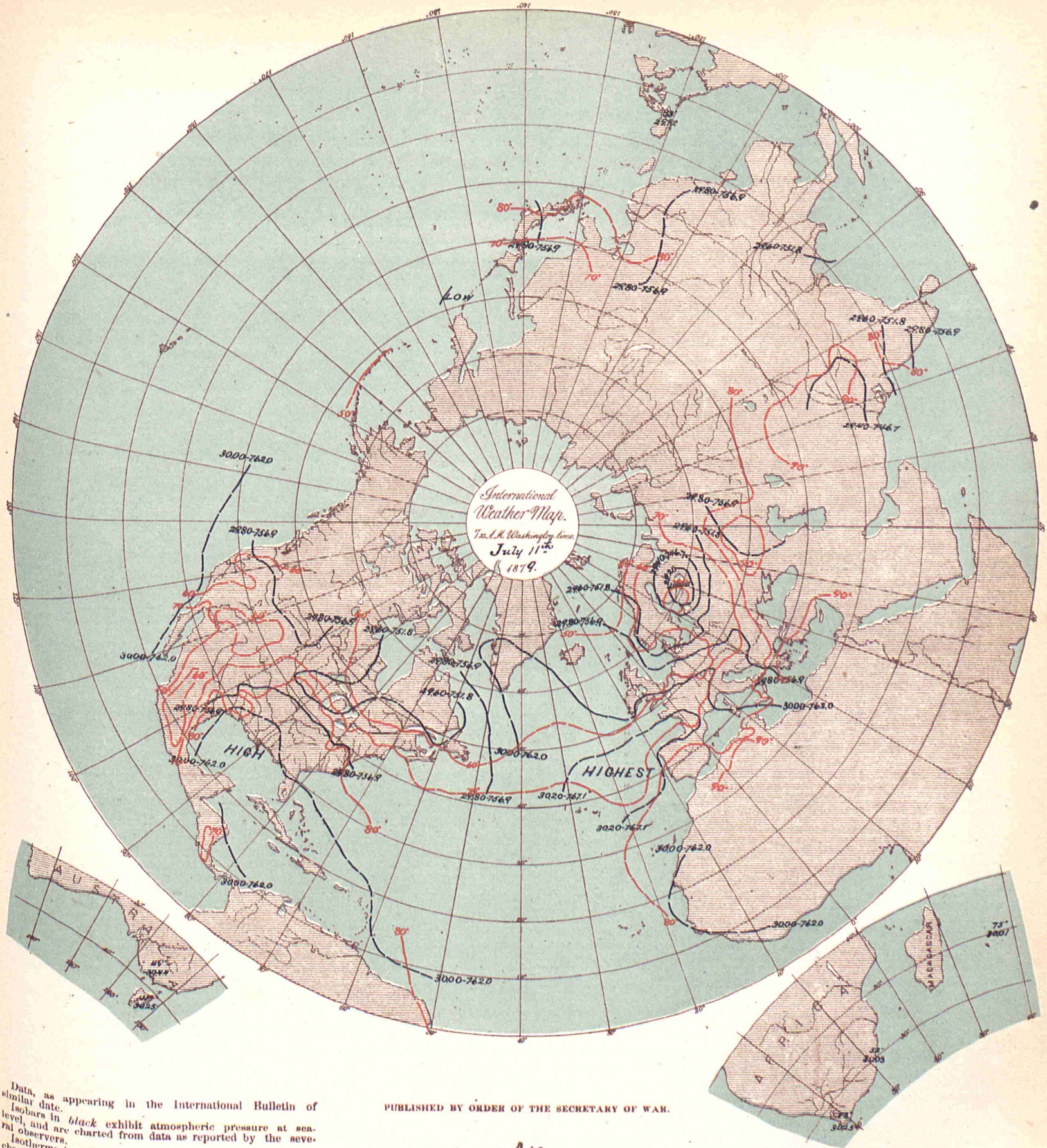
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is *not* reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm's are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 12, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:40 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Muritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.98	761.5	83.8	28.8	.....	E	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.02	762.5	80.2	26.8	58	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.00	762.0	77.0	25.0	62	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.07	763.7	79.0	26.1	89	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.18	766.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	30.03	762.7	90.1	32.3	18	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Geriville	.....	.....	30.08	764.1	79.7	26.5	44	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Laghouat	.....	.....	30.06	763.4	82.6	28.1	49	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Brugniaux.
Biskra	.....	.....	30.06	763.4	92.1	33.4	32	NNE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
.....	.....	.....	30.07	763.7	91.2	32.9	44	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.49	749.0	30.02	762.5	72.0	22.2	48	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.5	30.00	761.9	56.8	13.8	62	WNW	.....	.....	4	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.10	739.1	29.97	761.2	55.4	13.0	89	Calm	.....	.....	0	.....	10n	.....	.....	0.012	0.30	.....	Julius Mikolik.
Gratz	28.79	731.2	30.00	761.9	68.9	20.5	68	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.55	725.2	29.97	761.1	59.4	15.2	84	E	.....	.....	2	.....	10	.....	.....	0.646	16.4	Thunder-storm	Prof. A. Gottschling.
Kremsmünster	28.69	728.6	30.00	762.1	60.4	15.8	71	NW	.....	.....	2	.....	5	.....	.....	0.169	4.3	.....	Prof. C. Wagner.
Lemberg	28.95	735.3	29.91	759.7	64.9	18.3	56	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.90	759.4	30.00	762.1	75.6	24.2	38	ENE	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.53	750.0	29.98	761.4	71.4	21.9	49	SW	.....	.....	2	.....	7	.....	.....	0.004	0.1	Raining	Julius Csics, S. J.
Szegedin	29.73	755.1	30.00	762.0	68.0	20.0	53	W	.....	.....	1	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.6	30.02	762.4	77.1	25.0	42	W	.....	.....	1	.....	4	.....	.....	Inap.	Inap.	.....	P. Busin.
Vienna	29.32	744.8	30.05	763.3	64.0	17.8	53	WNW	.....	.....	3	.....	6	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:46 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.69	754.1	29.79	756.7	54.6	12.6	.....	S	7	3.1	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	29.70	754.4	29.72	754.9	56	13.3	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Wm McNeil &G.Carrick
Armagh, Observatory	29.46	748.3	29.68	753.9	57.4	14.1	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.69	754.1	57.8	14.3	.....	SE	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.67	753.6	56.9	13.8	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.72	754.9	59.8	15.4	.....	E	.....	.....	4	.....	6	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	83	28.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.64	752.8	29.74	755.4	65.0	18.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.69	754.1	61.0	16.1	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.66	753.4	29.79	756.7	57.8	14.3	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.67	753.6	29.71	754.6	55	12.8	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.77	756.1	29.79	756.7	58	14.4	.....	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.41	747.0	29.63	752.6	60.3	15.7	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.79*	705.8	30.07	763.8	61.0	16.1	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	81	27.2	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.60	751.8	57	13.9	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	78.5	26.0	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.53	750.0	29.74	755.4	55.7	13.2	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [O.
Great Yarmouth	29.79	756.7	29.80	756.9	58	14.4	.....	SSE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.60	751.8	29.76	755.9	59.8	15.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.50	749.3	29.72	754.9	59	15.0	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.57	751.1	29.66	753.4	62	16.7	.....	S	.....	.....	4	.....	8k	.....	.....	0.13	3.3	Gloomy	M. P. Moyle.
Holyhead	29.63	752.6	29.65	753.1	59	15.0	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.50	749.3	29.79	756.7	60.4	15.8	.....	S	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	29.73	755.1	29.77	756.1	58.0	14.4	.....	S	12	5.4	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.52	749.8	29.77	756.1	56.3	13.5	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.92	760.0	29.99	761.7	75	23.9	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.66	753.4	29.75	755.6	57	13.9	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.99	761.7	85.0	29.4	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.54	750.3	29.73	755.1	60.0	15.6	.....	SE	.....	.....	1	.....	10k;d	.....	SE	0.045	1.15	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.19	741.4	29.70	754.4	57.2	14.0	.....	SE	.....	.....	1-2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.73	755.1	57	13.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.59	751.6	29.67	753.6	54.6	12.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	John Merrifield.
Prince Town	28.21	716.5	29.67	753.6	52.5	11.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. H. Tooker.
*Roche's Point	29.57	751.1	29.68	753.9	58	14.4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.49	749.0	29.65	753.1	54	12.2	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.81	757.2	55.5	11.9	.....	NE	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	65.6	29.8	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Serg't W. H.Lyne.
Sheffield	29.48	748.8	29.78	756.4	56.0	13.3	.....	NE	.....	.....	1	.....	10	.....	.....	0.24	6.1	Gloomy	W. F. Cooper.
Silloth Rectory	29.66	753.4	29.69	754.1	61.0	16.1	70	Calm	.....	.....	0	.....	8	.....	.....	0.137	3.48	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.71	754.6	56.4	13.6	.....	E	8	3.6	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.55	750.6	29.77	756.1	58.4	14.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.64	752.8	29.66	753.4	62	16.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.60	751.8	29.63	752.6	55.6	13.1	.....	SSE	3	1.3	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.24	768.1	30.28	769.1	62.8	17.1	75	SSE	5.2	2.3	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.38	771.6	40	4.4	86	NW	.....	.....	2	.....	4k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.78	756.4	57.0	13.9	.....	E	2	0.9	.....	10ck	.....	W	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.87	758.7	30.06	763.6	74.2	23.4	69	WSW	9.5	4.2	.....	1	2	.....	.....	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.42	772.6	30.51	774.9	50.0	10.0	82	NW	6	2.7	.....	.....	10	.....	.....	0.05	1.3	Gloomy	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.76	755.9	56	13.3	.....	E	.....	.....	4	5	0	E	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.79	756.7	50	10.0	.....	NE	.....	.....	6	.....	10	.....	.....	0	C	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30′, E. 28° 40′	.....	.....	29.78‡	756.4‡	74.5	23.6	.....	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
Algeria, N. 41° 25′, W. 53° 55′	.....	.....	29.89	759.2	70	21.1	.....	SSW	.....	.....	2	.....	5	.....	.....	2	ESE	D. clouds	Capt. Wm. Watson
Agnes Wilson, N. 36° 55′, W. 59° 55′	.....	.....	29.75	755.6	75	23.9	.....	S	.....	.....	4	.....	10	.....	.....	3	S;SW	Overcast	Capt. H. W. Dyke.
Astarte, N. 45° 55′, W. 31° 40′ *	.....	.....	30.14‡	765.5‡	67	19.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Capt. Parson.
Theophane, S. 28° 20′, E. 3° 05′	.....	.....	30.28‡	769.1‡	62	16.7	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Royal Alexandra.*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.24	666.5	29.96	761.0	67.6	19.8	97	SE	.....	.....	2	9s	.....	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.77	756.2	29.82	757.4	60.1	15.6	67	SW	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
Fanöe	29.82	757.3	29.84	757.8	58.1	14.5	74	W	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Godthaab (Greenland)	30.07	763.6	30.11	764.7	46.4	8.0	76	SW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.94	760.5	29.98	761.6	52.2	11.2	66	SE	.....	.....	7	.....	8	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	29.93	760.3	29.97	761.1	48.4	9.1	81	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.68	753.9	29.79	756.7	56.1	13.4	83	SW	.....	.....	4	.....	7	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.37	746.0	29.92	760.0	63.8	17.4	90	S	.....	.....	1	10	.....	S	0.028	0.7	Covered	Collignon, Director.
Amiens, Normal School	29.73	755.1	29.84	757.8	70.5	21.4	62	SSW	.....	.....	1	5	.....	NE	0.28	7.	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.61	752.0	29.86	758.3	65.3	18.5	66	SW	.....	.....	3	10	.....	SW	Inap.	Inap.	Covered	Klein, Commandant.
Avignon, Normal School	29.93	760.2	30.01	762.2	78 8	25.7	97	NNE	.....	.....	1	0	.....	.....	0	0	Very clear	Giraud, Director.
Par-sur-Seine	29.42	747.3	29.90	761.0	68.4	20.2	55	W	.....	.....	1	8kn	.....	.....	0.142	3.6	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.60	751.9	29.85	758.3	67.8	19.9	76	SSW	.....	.....	2	10	.....	SW	0.010	0.25	Covered	Frere Eugene Marie.
Besançon, Normal School	29.15	740.4	30.02	762.6	70.2	21.2	50	SW	.....	.....	1	8	.....	SW	0.047	1.2	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.1	30.11	764.8	70.5	21.4	45	SW	.....	.....	1	2ck	W	W	0	0	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.41	747.0	29.95	760.6	66.6	19.2	54	W	.....	.....	1	5kn	W	W	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.48	748.8	29.72	755.0	59.7	15.4	91	SW	.....	.....	3	10	.....	SW	0.118	3.00	Rain & mist.	Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.56	750.9	29.96	760.9	81.0	27.2	39	NW	.....	.....	3	2	.....	NW	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.74	755.3	29.81	757.2	66.2	19	77	SW	.....	.....	1	0	.....	.....	0	0	.....	Lair, Director.
Chartres, Normal School	29.36	745.8	29.92	760.0	59.4	15.2	98	S	.....	.....	3	10	.....	E	0.063	1.6	Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.2	29.97	761.2	61.9	16.6	73	S	.....	.....	3	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.62	727.0	29.92	759.9	75.7	24.3	45	SE	.....	.....	1	5	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.12	739.7	29.97	761.2	63.7	17.6	65	WSW	.....	.....	3	8kn	SW	SW	0.177	4.5	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.95	735.3	30.09	764.3	77.7	25.4	30	SW	.....	.....	2	2	.....	W	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.29	743.9	30.04	762.9	67.1	19.5	52	WNW	.....	.....	1	2s	.....	.....	0	0	Partly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.74	755.4	29.95	760.8	59.4	15.2	96	S	.....	.....	3	10	.....	.....	0.276	7.0	Light rain	Mouillot, Director.
Le Mans, Normal School	29.61	752.1	29.91	759.8	60.4	15.8	91	SSW	.....	.....	3	10	.....	SW	0.020	0.5	Covered	Poirrier, Director
Lons-Le-Saulnier, N.School	29.12	739.7	30.02	762.6	68.9	20.5	59	W	.....	.....	1	5cs	.....	.....	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.76	755.8	29.86	758.3	61.2	16.2	94	SSW	.....	.....	2	.....	.....	S	0.118	3.0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.75	755.7	30.02	762.4	68.7	20.4	46	W	.....	.....	3	2	.....	.....	0	0	Partly cl'dy	E. Stephan, Director
Mirecourt, Normal School	28.95	735.3	29.97	761.3	64.4	18	62	SW	.....	.....	1	8	.....	SW	0	0	Very cloudy	Barbier, Director.
Mont-Louis	24.93	633.3	30.25	768.3	68.0	20.0	43	SW	15.0	6.7	.....	0	.....	.....	0	0	.....	M. Cave.
Nismes, Normal School	29.85	758.2	30.05	763.2	82.0	27.8	40	SE	.....	.....	1	2	.....	E	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.64	752.8	59.5	15.3	95	SSW	.....	.....	2	10	.....	.....	0.008	0.2	Rainy	Annie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.65	575.2	.....	.....	53.8	12.1	.....	W	.....	.....	3	5	.....	.....	0	0	Fair	Gen'l de Nansouty.
Perpignan	29.92	760.0	30.02	762.6	70.0	21.1	59	SE	15.0	6 7	.....	5	.....	NW	0	0	.....	Dr Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.21	640.3	.....	.....	50.5	10.3	84	SSW	.....	.....	2	8	.....	.....	0.004	0.1	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.94	760.4	29.97	761.2	70.7	21.5	59	SW	.....	.....	1	10	WSW	WSW	0.32	8.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.76	755.8	29.84	757.9	68.0	20.0	64	S	.....	.....	1	8	.....	S	0.055	1.4	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.73	755.2	29.76	756.0	65.7	18.7	75	SSW	.....	.....	3	8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.76	755.8	29.92	760.0	60 3	15.7	89	S	.....	.....	2	10	.....	SSW	0.217	5.5	.....	E. Renou, Director.
Tarbes, Normal School	29.07	738.3	30.11	764.7	77.9	25.5	65	W	.....	.....	1	2	SSW	SW	0	0	Slightly cl'dy	P. Huguet, Director.
Toulouse, Observatory	29.30	744.2	30.02	762.6	75.2	24.0	48	SE	.....	.....	1	3	.....	.....	0.012	0.3	.....	M. Juller Mercadier.
Tours	29.73	755.2	29.93	760.2	62 6	17.0	80	SW	.....	.....	3	10	.....	SSW	0	0	.....	Cousin-Marquet.
Versailles, Observatory	29.41	747.0	29.91	759.6	62.2	16.8	83	SW	.....	.....	2	10	.....	.....	0.221	5.62	Light rain	Dr A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.2	29.99	761.8	70.9	21.6	54	SE	.....	.....	1	5	.....	E	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.83	757.6	29.85	758.3	81.3	27.4	.....	.....	.....	.....	.....	.....	.....	.....	0.32	8.	.....	L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.41	746.9	30.00	762.1	70.3	21.3	43	SW	.....	.....	1	5	.....	.....	0	0	Cloudy	Ch. André, Director.
Nice	.....	.....	30.05	763.2	76.3	24.6	61	E	.....	.....	3	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.85	758?2	29.87	758.8	81.0	27.2	90	SE	4.7	2.1	.....	0	.....	.....	0.008	0.2	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 385 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.7	30.00	762.1	63.1	17.3	59	W			4		8	W		0.094	2.4	Raining	Prof. Dr. Hoh.
Berlin	29.76	756.0	29.98	760.3	63.5	17.5	51	S			4		7			0.031	0.8	Raining	Prof. Dr. Arndt.
Breslau	29.46	748.2	29.99	761.7	64.0	17.8	42	WSW			3		8			0	0		Royal University Ob'y.
Carlsruhe	29.56	750.8	29.98	761.4	64.8	18.2	68	SW			0		10	WNW		0.035	0.9	Raining	Albert Sens.
Cassel	29.37	746.0	29.98	761.4	64.6	18.1	55	W			2		8	WSW		0	0		Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	66.7	19.8	49	SW			4		9			0	0		Director Lose.
Emden			29.90	759.5	61.5	16.4	54	WSW			1		10			0.028	0.7		Prof. Dr. Prestel.
Frankfort on the Main	29.85	758.1	30.01	762.3	63.5	17.5		WSW			2		10			0.004	0.1		Physical Society.
Freienwalde on the Oder	29.89	759.1	29.93	760.1	64.4	18.0	46	SW			4		5ks	SW		0.035	0.9		Dr. Assmann.
Friedrichshafen	28.60	726.5	30.01	762.3	62.8	17.1	57	SW			2		2	WSW		0	0		M. Wilhelm.
Hamburg	29.84	758.0	29.91	759.8	58.6	14.8	70	W			5		10kn			0.016	0.4	Showery	Captain F. Hegemann
Kiel	29.86	758.4	29.87	758.8	58.5	14.7	73	SW			3		10			0.048	1.22		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.73	755.2	29.82	757.3	59.5	15.3	79	W			4		6			1.418	36.0		Prof. E. Luther.
Köslin			29.85	758.1	58.7	14.8		NW			2		4			0.035	0.9		H. Müller.
Leipsic Observatory	29.57	751.0	29.98	761.5	62.2	16.8	57	W			2		8			0.008	0.2		Prof. Bruhns, Privy Counselor.
Memel								W			4		10n						Skalweit.
Munich (München)	28.22	716.7	30.08	764.1	65.1	18.4	45	SW			5		7	SW		0.287	7.3	Heavy rain.	Dr. C. Lang.
Neufahrwasser	29.84	757.8	29.85	758.2	63.3	17.4	61	WNW			4		8			0.150	3.8		A. Lothes.
Posen	29.70	754.4	29.98	761.6	62.8	17.1	48	W			5		6			0	0		Dr. Magener.
Strassburg (in Alsace)	29.46	748.3	30.00	761.9	68.9	20.5	61	SSW			2		9	WNW		0.015	0.38		Imp. University Observatory.
Stuttgart	29.03	737.4	29.95	760.6	66.2	19.0	74	W			2		9	W		0.091	2.3		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.51	724.2	30.00	761.9	61.2	16.2	34	W	7	3			8ck		WNW	0.008	0.2	Hazy	T. Hopfner.
Wustrow	29.87	758.7	29.89	759.3	60.1	15.6	63	WSW			5		5ks			0.138	3.5		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.40	746.8	29.77	756.2	88.0	31.1		NE			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.3	29.59	751.6	83.8	28.8	72	WSW					10		WSW	0	0	Overcast	
Dersa	29.16	740.6	29.62	752.3	88.1	31.2	57	SW					10			0	0	Overcast	
Bombay	29.74	755.5	29.78	756.5	83.4	28.6	83	W	18.0	5.8			10		SW	0	0	Overcast	
Poona	27.93	709.3	29.78	756.3	78.3	25.7	66	WSW					9		W	0	0	D. clouds	
Lahore	28.71	729.2	29.42	747.3	96.2	35.7	46	Calm	3.1	1.4			6			0.07	1.8	D. clouds	
Belgaum	27.27	692.8	29.83	757.6	71.0	21.7	90	W	8.0	3.6			10	W	W	0.03	0.8	D. clouds	
Roorkee	28.55	725.2	29.42	747.2	90.4	32.4	70	Calm	1.7	0.8			2			0	0		
Agra	28.92	734.7	29.47	748.6	90.2	32.3	65	SW					5		SW	0	0		
Nagpur	28.58	726.0	29.60	751.8	88.7	31.5	48	NW	5.0	2.2			5		SE	0	0	D. clouds	
Lucknow	29.13	740.0	29.61	749.5	79.3	26.3	95	N	3.8	1.7			10			0.30	7.6	Raining	
Allahabad	29.21	742.0	29.52	749.8	84.1	28.9	85	SW	2.8	1.2			10		W	0.30	7.6	Raining	
Patna	29.34	745.3	29.52	749.8	84.2	29.0	79	Calm	0.1	0.04			10			0.08	2.0	Overcast	
Hazaribagh	27.56	700.0	29.54	750.4	81.0	27.2	77	W	7.7	3.4			10			0.39	9.9	Raining	
Cuttack	29.53	750.1	29.62	752.2	82.0	27.8	85	WSW	1.0	0.4			7			0.08	2.0	D. clouds	
Calcutta (Alipore)	29.54	750.4	29.56	750.9	81.7	27.6	90	N	3.0	1.3			10		W			Showery	
Goalpara	29.17	741.0	29.56	750.7	83.3	28.5	84	Calm	1.4	0.6			9		SW	2.36	59.9	D. clouds	
Chittagong	29.55	750.7	29.65	753.0	81.0	27.2	90	SW	6.6	3.0			10					Drizzling	
Sibsagar	29.24	742.8	29.57	751.2	83.2	28.4	84	SW	2.3	1.0			10	SW	SW	0.45	11.4	D. clouds	
Jubbulpore	28.23	717.1	29.58	751.2	82.8	28.2	73	Calm	4.7	2.1			8		E	0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 463.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.62	752.3	30.02	762.4	74.1	23.4	45	E	1.8	0.6			4			0.063	1.6		Prof. Giovanni Clodig.
Milan	29.50	749.4	30.01	762.2	77.4	25.2	39	ESE			2		5	SSE		0	0		Prof. Schiaparelli.
Padua	29.81	750.8	30.02	762.5	74.3	23.5	33	ESE	5.6	2.5			2	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	29.99	761 7	71.8	22.1	40	NW	4.3	1.9			5	WSW		0	0		Prof. P. F. Denza.
Genoa	29.84	758.0	30.03	762.7	72.7	22.6	61	SW	5.6	2.5			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.4	29.97	761.3	68.9	20.5	58	W			2		4	WSW		0	0		Prof. D. C. Bruno.
Pesaro	29.98	761.4	30.02	762.6	70.0	21.1	49	N	9.8	4.4			1			0	0		Prof. Luigi Guidi.
Florence	29.74	755.5	29.99	761.8	79.7	26.5	30	N			2		1			0	0		Cav. F. Meucci.
Leghorn	29.93	760.2	30.01	762 3	72.1	22 3	55	S	4.9	2.2			0			0	0		Prof. P. Monte.
Rome	29.84	758.0	30.01	762 3	78.6	25.9	49	WSW	11.2	5.0			0			0	0		Prof. P. S. Ferrari.
Lecce	29.72	754.8	29.96	761.0	77.0	25.0	31	NNE	28.0	12 5			0			0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.4	29.95	760.7	82.1	27.8	60	NW	5.6	2.5			1			0	0		Prof. D. Conti.
Cagliari	29.65	753.1	30.04	762.9	75.7	24.3	29	NW			4		0			0	0		Prof. A. Pacinotti.
Palermo	29.80	757.0	30.05	763.3	72.3	22.4	51	NE	5.6	2.5			1			0	0		Prof. G. Cacciatore.
Syracuse	29.89	759.3	29.97	761.1	82.1	27.8	40	E	6.3	2.8			1	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.4	30.00	763.5	75.6	24.2	63	S	8.1	3.6			2	E		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.88	758.9	73.7	23.2	74	NNE	5.2	2.3			1s			0.133	3.38	Clear..	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	78.3	25.7	84	WSW	3.4	1.5			4s			0.275	6.98	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.75	755.6	29.81	757.2	72.2	22.3	83	SSE	4.2	1.9			10ks;s			0.023	0.58	Cloudy	The Staff.
Wakayama	29.80	756.9	29.85	758.2	72.6	22.6	64	NE	7.5	3.3			0			0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.11	637.8	30.13	765.2	68.1	14.5	75	NW			1		8		SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.45	621.2	30.09	764.3	63.5	17.5	83	SW			2	8c	4k	NW		0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.7	30.03	762.8	59 0	15.0	68	Calm	0	0		1cs	0			0	0	Clear	The Staff.
Pabellon (Aguascallentes)					60.4	15.8	88	NE			1	1c	1s	SW		Inap.	Inap	Clear	M. V. de Leon, M. E
Tlacotalpam	29.94	760.5	29.95	760.8	76.1	24 5	87	Calm			0	1	1	E	SW	0	0	Clear	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.13	765.3	62.1	16.7	70	E			3	1	1	W	E	0	0	Clear	G. Barroeta, M. E.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.7	30.18	766.5	59.2	15 1	80	Calm			0	6ck	0	SW		0	0	½ clouded	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.1	30.19	766.9	58.1	14.5	84	Calm	0	0		7ck	0	NW		0.31	7.9	Cloudy	Prof. P. Spina.
Colima																			R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.72	754.9	29.87	758.8	75.6	24.2	91	SE			3		10n			0.20	5.0	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,589.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.7	29.87	758.7	64.6	18.1		SSE			4					0	0		
Groningen	29.84	758.0	29.90	759.4				SW			1					0.004	0.1		
Helder	29.86	758.4	29.86	758.4	62.1	16.7		SSW			1					0 319	8.1		
Hellevoetsluis	29.87	758.6	29.87	758.6	68.9	20 5	62	S			3					0	0		
Utrecht	29.84	757.9	29.89	759.1	64 0	18.1	67	SSW			3		8			0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.62	752.4	29.68	753.8	62.2	16.8	79	WNW	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	
Bröno	29.76	756.0	29.80	757.0	51.8	11.0	58	NNW	18	8	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.52	749.8	29.66	753.4	67.6	19.8	43	ENE	2	1	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.50	749.3	29.54	750.4	42.1	5.6	97	SW	11	5	.....	.....	10	.....	.....	0.350	8.9	Raining	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 9h., p. m., instead of 9h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.13	765.2	30.31	769.9	74.8	23.8	88	N	8.1	3.6	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.5	30.00	761.9	90.5	32.5	18	SW	9.4	4.2	.....	.....	2	.....	.....	0	0	Solar corona	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.96	761.0	30.05	763.2	78.3	25.7	71	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.08	764.1	80.2	26.8	40	SSW	6.3	2.8	.....	.....	4	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.0	30.34	770.7	78.8	26.0	69	N	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 5° 22′, E. 11° 52′	.....	.....	30.03	762.7	73.9	23.3	.....	SSW	.....	.....	1	.....	0	.....	.....	1	SSW	Blue sky	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.6	64.4	18.0	.....	NW	.....	.....	1	.....	10	.....	NW	1	NW	Overcast	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.03	762.8	77.0	25.0	.....	NE	.....	.....	3	.....	5	.....	NE	.....	.....	D. Clouds, ½ hr's rain-fall.	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.92	760.0	78.8	26.0	.....	SW	.....	.....	2	.....	10	.....	SW	1	SW	Overcast. 6 hr's rain-fall.	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.52	749.8	29.94	760.4	60.1	15.6	57	W	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.38	746.3	29.79	756.6	64.8	18.2	63	SW	7	3	.....	.....	7	.....	.....	Blank	Blank	Heavy clouds	Astronomical Obs.
Dorpat	29.47	748.4	29.70	754.4	58.3	14.6	89	SW	9	4	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.53	750.1	29.55	750.5	61.9	16.6	82	S	11	5	.....	.....	9ns	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.25	742.9	29.87	758.8	56.5	13.6	99	N	4	2	.....	.....	9k;ks;n	.....	.....	.....	.....	Raining	Physical Cabinet.
Nikolaiev	29.78	756.3	29.85	758.1	68.7	20.4	72	NNW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.71	754.7	29.73	755.2	83.8	28.8	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.30	744.2	29.82	757.5	73.0	22.8	48	S	4	2	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.42	747.2	29.61	752.0	65.0	35.0	39	SE	2	1	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.36	745.7	29.38	746.2	58.5	14.7	96	SW	4	2	.....	.....	10	.....	.....	.....	.....	Raining	Capt. Sselliwerstow.
Tiflis	28.42	721.8	29.73	755.2	91.4	33.0	29	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.89	759.2	29.81	757.1	91.6	33.1	32	SE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.47	748.6	29.91	759.6	93.0	33.9	29	S	16	7	.....	.....	5ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.59	751.5	29.84	757.8	89.8	32.1	35	S	9	4	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.08	738.5	29.98	761.6	83.1	28.4	48	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.53	750.1	29.75	755.7	84.2	29.0	33	NNE	13	6	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.07	713.0	29.60	749.4	93.2	34.0	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.23	742.4	29.70	754.3	77.9	25.5	41	N	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.54	750.3	29.82	757.3	74.5	23.6	85	NNW	4	2	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.69	754.1	29.83	757.7	75.9	24.4	84	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.73	755.1	29.83	757.6	72.7	22.6	90	Calm	0	0	.....	.....	1s	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	78.1	25.6	55	SE	4.3	1.89	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.3	29.99	761.7	78.6	25.9	52	NW	3.0	1.35	.....	.....	5	W	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.8	.....	.....	79.7	26.5	32	S	5.1	2.26	.....	.....	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.80	706.0	29.56	758.4	92.5	33.6	27	SW	9.7	4.34	.....	2	3	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.89	759.1	30.03	762.7	86.2	30.1	53	ESE	21.3	9.5	.....	1	2	E	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	30.00	762.1	63.5	17.5	79	SW	10.5	4.7	.....	.....	10	.....	.....	0	0	Coverd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	761.0	30.03	762.6	81.5	27.5	78	NE	1.3	0.6	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.90	759.4	29.95	760.7	85.9	29.9	82	NE	4.5	2.0	.....	.....	3s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.2	30.06	763.5	90.7	32.6	41	SW	8.9	4.0	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.2	30.02	762.5	83.8	28.8	71	SE	6.5	2.90	.....	2c	2k	SE	SE	0.472	12.00	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.1	29.65	753.1	56.1	13.4	.....	N	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	29.61	752.2	29.67	753.5	55.8	13.2	49	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.68	752.5	29.68	753.8	61.2	16.2	63	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.48	748.7	29.65	753.2	63.7	17.6	60	N	.....	.....	4	.....	3	.....	.....	0.024	0.6	.....	
Wisby	29.57	751.0	29.63	752.5	66.2	19.0	63	W	.....	.....	6	.....	7	.....	.....	0.004	0.1	.....	
Sub-Series.																			
Upsala	29.58	751.2	29.66	753.4	60.8	16.0	65	NNE	11.9	5.3	.....	.....	4	.....	N	0.0 4	0.01	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 40° 38′, W. 15° 56′	.....	.....	30.21	767.3	68.9	20.5	.....	WNW	. ....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applie at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	727.0	30.02	762 6	61.9	16.6	48	NNE	.....	.....	1	.....	7	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.41	721.3	30.00	762.1	66.9	19.4	79	W	.....	.....	1	.....	2	.....	.....	0.016	0.4	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.5 mm.; Thermometer, —5.9 Cent.; Relative Humidity, —5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.7	77.4	25.2	63	NNE	19	8.5	.....	.....	7	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.4	78.1	25.6	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.61	752.1	29.72	755.0	90.5	32.5	56	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.65	753.1	29.71	754.6	58	14.4	97	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Hazy	G. A. Blair.
Charlottetown, P. E. Island	29.65	753.1	29.69	754.1	65	18.3	92	S	4	1.8	.....	0	2s	.....	.....	0.020	0.51	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.54	750.3	29.72	754.9	66.0	18.9	82	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	57.5	14.2	92	W	.....	.....	1	.....	10s	.....	.....	0	0	Gloomy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.67	753.6	29.69	754.1	53	11.7	85	S	7	3.1	.....	0	2s	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.67	753.6	29.74	755.4	65.0	18.3	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.89	733.8	29.67	753.6	70	21.1	82	S	5	2.2	.....	2c	2ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.74	730.0	29.50	749.9	65	18.3	89	Calm	.....	.....	0	0	0	.....	.....	0.07	1.8	Clear	James Grant.
*Halifax, N. S	29.61	752.1	29.72	754.9	59	15.0	96	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.44	747.8	29.80	756.9	68.7	20.4	88	NW	.....	.....	1	0	0	.....	.....	1.17	29.7	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.42	747.3	29.78	756.1	70	21.1	63	NE	15	6.7	.....	0	0	.....	.....	0.06	1.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.70	754.4	29.74	755.4	70.9	21.6	79	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.54	750.3	29.73	755.1	69	20.6	70	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.78	756.4	66	18.9	95	Calm	0	0	.....	2c	0	.....	.....	1.36	34.5	Clear	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.10	27.9	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.12	739.6	29.78	756.4	67	19.4	89	NE	9	4.0	.....	0	0	.....	.....	0.67	17.0	Clear	H. Morgan.
Port Hastings, N. S	29.68	753.9	29.73	755.1	50.5	10.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.79	756.7	66	18.9	85	N	4	1.8	.....	2k	0	NW	.....	0.16	4.1	Clear	M. Payne.
*Quebec, Quebec	29.43	747.5	29.75	755.6	62	16.7	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.34	745.2	29.79	756.7	59	15.0	98	NW	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.64	752.8	29.69	754.1	63	17.2	79	Calm	.....	.....	0	0	0	.....	.....	0.03	0.8	Clear	Dr. Gove.
St. John, N. B	29.54	750.3	29.70	754.4	68	20.0	62	NE	3	1.3	.....	0	1k	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.12	739.6	29.80	756.9	66	18.9	71	S	2	0.9	.....	.....	Fog	.....	.....	0.18	4.6	Foggy	K. Stewart.
Stayner, Ontario	29.05	737.9	29.80	756.9	65	18.3	83	Calm	0	0	.....	.....	Fog	.....	.....	0.25	6.3	Foggy	R. J. Cole.
Stratford, Ontario	28.84	724.9	29.78	756.4	61.2	16.2	97	NE	1	0.4	.....	0	0	.....	.....	0.687	17.46	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.69	754.1	29.73	755.1	69	20.6	75	S	4	1.8	.....	2k	0	.....	.....	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.43	747.5	29.80	756.9	68	20.0	86	N	11	4.9	.....	0	0	.....	.....	0.63	16.0	Clear	Magnetic Observatory.
Windsor, N. S	29.65	753.1	29.75	755.6	72.5	22.5	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock	28.77	730.7	29.79	756.7	69.6	20.9	76	Calm	0	0	.....	1cs	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.68	753.9	29.92	760.0	61.0	16.1	82	Calm	0	0	.....	10k	10s	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.46	748.3	29.68	753.9	70	21.1	85	N	2	0.9	.....	0	2ks	.....	NE	0.69	17.5	Fair	
Alpena, Michigan	29.18	741.1	29.79	756.7	66	18.9	84	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	50	10.0	100	SW	13	5.8	.....	.....	10n	.....	SW	0.83	21.1	Cloudy	
Atlanta, Georgia	28.73	729.7	29.80	756 9	85	29.4	54	W	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	29.54	750.3	29.56	750.8	76	24.4	77	NW	12	5.4	.....	2k	Haze	NW	Calm	0.20	5.1	Clear	
Augusta, Georgia	29.63	752.6	29.81	757.2	87	30.6	55	NW	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	29.59	751.6	29.63	752.6	78	25.6	69	NW	11	4.9	.....	Haze	2s	Calm	NW	0.33	8.4	Fair	
Barnegat, New Jersey	29.51	749.5	29.53	750.0	77	25.0	73	NW	16	7.2	.....	2k	0	NW	.....	0.24	6 1	Clear	
Bismarck, Dakota	27.91	708.9	29.77	756.1	72	22.2	80	E	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Boerne, Texas	28.45	722.6	29.70	754.4	74	23.3	81	SW	8	3.6	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.11	688.6	30.07	763.8	60	15.6	49	NW	6	2.7	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Boston, Massachusetts	29.63	750.0	29.68	753.9	66	18.9	74	NE	14	6.3	.....	2cs	2s	W	W	0.02	0.5	Fair	
Brackettville, Texas	28.74	730.0	29.72	754.9	78	25.6	65	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.75	730.2	29.68	753.9	68	20.0	90	SE	6	2.7	.....	8cs	0	SW	.....	0	0	Fair	
Brownsville, Texas	29.83	757.7	29.88	758.9	82	27.8	83	S	8	3.6	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.08	738.6	29.75	755.6	68	20.0	74	N	8	3.6	.....	1k	0	N	.....	0.26	6.6	Clear	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	29	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.44	747.8	29.71	754.6	67	19.4	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.49	749.0	29.85	758.2	84	28.9	71	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.40	696.0	29.98	761.5	41	5.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.70	754.4	29.70	754.4	82	27.8	83	NW	10	4.5	.....	10cs	0	Calm	.....	0	0	Cloudy	
Cape Henry, Virginia	29.66	753.4	29.67	753.6	78	25.6	69	SW	10	4.5	.....	5ck	2s	W	W	0.34	8.6	Cloudy	
Cape Lookout, N. Carolina	29.69	754.1	29.70	754 4	82	27.8	91	W	12	5.4	.....	5cs	Haze	Calm	Calm	0	0	Dense haze.	
Cape May, New Jersey	29.56	750.8	29.59	751.6	72	22.2	85	W	14	6.3	.....	0	0	.....	.....	0.70	17.8	Clear	
Castroville, Texas	29.10	739.1	29.77	756.1	77	25.0	77	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.71	754.6	29.77	756.1	87	30.6	65	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	28.95	735.3	29.70	754.4	89	31.7	50	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.08	738.6	29.83	757.7	85	29.4	54	W	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	61	16.1	66	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.14	740.1	29.78	756 4	74	23.3	76	NE	3	1.3	.....	2ck	0	SW	.....	0	0	Clear	
Cincinnati, Ohio	29.15	740.4	29.75	755.6	81	27.2	74	NE	5	2.2	.....	4ck	0	NW	.....	0.08	2.0	Fair	
Cleveland, Ohio	29.10	739.1	29.78	756.4	70	21.1	80	NE	6	2.7	.....	.....	10ks	.....	NE	0.67	17.0	Cloudy	
Coleman City, Texas	28.03	711.9	29.58	751.3	79	26.1	82	S	11	4.9	.....	0	0	.....	.....	0.03	0.8	Clear	
Columbus, Ohio	28.98	736.1	29.77	756.1	72	22.2	71	N	7	3 1	.....	.....	10ks	.....	NW	1.04	26.4	Cloudy	
Concho, Texas	27.93	709.4	29.50	749.3	79	26.1	62	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.41	747.0	29.85	758.2	78	25.6	76	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.17	740.9	29.77	756.1	75	23.9	72	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.18	639.6	.....	.....	72	22.2	38	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.66	727.7	29.74	755.4	82	27.8	60	S	12	5.4	.....	0	5k	.....	Calm	0	0	Fair	
Denison, Texas	29.05	737.9	29.79	756.7	79	26.1	74	S	7	3.1	.....	2ck	2ks	S	S	0	0	Fair	
Denver, Colorado	24.74	628.4	29.96	761.0	62	16.7	67	S	4	1.8	.....	0	Sm'e	.....	.....	0.02	0.5	Clear	
Des Moines, Iowa	28.92	734.6	29.74	755.4	78	25.6	73	SE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Detroit, Michigan	29.17	740.9	29.81	757.2	68	17.2	94	N	7	3.1	.....	.....	10s	.....	Calm	0.65	16.5	Cloudy	
Dodge City, Kansas	27.24	691.9	29.40	746.7	69	20.6	90	E	4	1.8	.....	1c	1ks	Calm	E	0.18	4.6	Fair	
Dubuque, Iowa	29.11	739.4	29.77	756.1	74	23.3	76	NW	1	0.4	.....	10k	0	NW	.....	0	0	Cloudy	
Duluth, Minnesota	29.08	738.6	29.73	755.1	64	17.8	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.33	8.4	Foggy	
Eagle Pass, Texa	29.09	738.9	29.78	756.4	81	27.2	63	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.64	752.8	29.70	754.4	60	15.6	82	SW	2	0.9	.....	5k	0	W	.....	0.30	7.6	Fair	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	79	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.19	665.2	.....	.....	72	22.2	71	W	8	3.6	.....	5cs	0	W	.....	0	0	Fair	
Erie, Pennsylvania	29.08	738.6	29.76	755.9	69	20.6	85	NE	8	3.6	.....	8k	0	NE	.....	0.47	11.9	Cloudy	
Escanaba, Michigan	29.17	740.9	29.79	756.7	72	22.2	76	SE	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Florence, Arizona	25.45	722.6	30.05	763.3	78	25.6	29	SW	4	1.8	.....	0	0	.....	.....	0 01	0.3	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.61	701 3	.....	.....	65	18.3	83	E	8	3.6	.....	0	0	.....	.....	0.14	3.6	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	68	20.0	70	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.27	743.4	29.77	756.1	80	26.7	66	SE	3	1.3	.....	8cs	0	E	.....	Inap.	Inap.	Fair	
Fort Grant, Arizona	25.20	641.6	30.06	763.5	68	20.0	70	NW	4	1.8	.....	5cs	2ks	Calm	Calm	0	0	Fair	
Fort Griffin, Texas	28.52	724.4	29.73	755.1	82	27.8	60	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.05	687.1	.....	.....	71	21.7	49	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.62	701.5	29.43	747.5	75	23.9	68	S	12	5.4	.....	0	2s	.....	Calm	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.54	724.9	29.57	751.1	78	25.6	69	SW	8	3.6	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Fort Stevenson, Dakota	27.85	707.4	.....	.....	70	21.1	84	E	3	1.3	.....	1c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	78	25.6	46	W	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.58	751.3	80	26.7	59	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.90	759.4	29.95	760.7	83	28.3	67	S	10	4.5	.....	0	1ks	.....	S	0	0	Clear	
Graham, Texas	28.72	729.5	29.70	754.4	84	28.9	61	SE	4	1.8	.....	0	1s	.....	Calm	0	0	Fair	
Grand Haven, Michigan	29.20	741.7	29.81	757.2	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.84	732.5	29.70	754.4	79	26.1	74	SE	5	2.2	.....	2k	8s	Calm	W	0.12	3.0	Threatening	
Indianapolis, Indiana	29.01	736.8	29.73	755.1	80	26.7	76	N	2	0.9	.....	2c	0	W	.....	0	0	Clear	
Indianola, Texas	29.90	759.4	29.93	760.2	83	28.3	75	S	12	5.4	.....	0	1ks	.....	S	0	0	Clear	
Jacksboro, Texas	28.70	729.0	29.74	755.4	90	32.2	47	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.86	758.4	29.88	758.9	88	31 1	62	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.15	740.4	29.71	754.6	83	28.3	75	E	2	0.9	.....	1cs	4s	Calm	Calm	0	0	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	83	28.3	67	W	6	2.7	.....	2k	0	W	.....	0	0	Fair	
Kittyhawk, North Carolina	29.66	753.4	29.68	753.9	79	26.1	82	SW	3	1.3	.....	.....	10ks	.....	NE	0.41	10.4	Cloudy	
Knoxville, Tennessee	28.89	733.8	29.82	757.4	80.5	26.9	62	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.05	737.9	29.74	755.4	73	22.8	90	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	68	20 0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.48	747.5	29.75	755.6	84	28.9	47	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.98	736.1	29.76	755.9	79	26.1	74	W	2	0.9	.....	2ck	8ks	SE	.....	0.01	0.3	Cloudy	
Little Rock, Arkansas	29.56	750.8	29.89	759.2	81	27.2	67	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.65	753.1	29.98	761.5	57.5	14.2	85	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.24	742.7	29.75	755.6	86	30.0	55	W	7	3.1	.....	8c	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.03	737.3	29.65	753.1	86	30.0	51	S	4	1.8	.....	2c	0	N	.....	0	0	Clear	
Madison, Wisconsin	28.82	732.0	29.75	755.6	73	22.8	81	SW	1	0.4	.....	2c	0	W	.....	0.03	0.8	Fair	
Marquette, Michigan	29.09	738.9	29.75	755.6	71	21.7	66	NW	1	0.4	.....	5k	0	NW	.....	0	0	Fair	
Mason, Texas	28.24	717.3	29.90	759.4	79	26.1	66	S	5	2.8	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.57	751.1	29.89	759.2	85	29.4	64	SW	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear	
Milwaukee, Wisconsin	29.09	738.9	29.78	756.4	70	21.1	75	NE	3	1.3	.....	1c	0	Calm	.....	0.01	0.3	Clear	
Mobile, Alabama	29.91	759.7	29.95	760.7	83	28.3	75	W	8	3.6	.....	0	5ks;hz	.....	S	0	0	Fair	
Montgomery, Alabama	29.70	754.4	29.93	760.2	83	28.3	74	W	6	2.7	.....	2ck	Haze	S	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er. 0—10	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Morgantown, West Virginia	28.80	731.5	29.72	754.9	76	24.4	77	SW	4	1.8	.....	5k	0	SW	.....	1.50	38.1	Fair,.....	
Mt. Washington, N. H.....	23.72	602.5	30.08	764.0	49	9.4	57	NE	14	6.3	.....	0	2s	.....	Calm	0	0	Clear.....	
Nashville, Tennessee.....	29.36	745.7	29.85	758.2	89	31.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
New Haven, Connecticut....	29.50	749.3	29.61	752.1	67	19.4	89	NE	14	6.3	.....	2ck	8ks	Calm	NE	3.02	76.7	Clearing.....	
New London, Connecticut...	29.55	750.6	29.60	751.8	66	18.9	89	NE	12	5.4	.....	.....	10n	.....	NE	1.44	36.6	Light rain...	
New Orleans, Louisiana.....	29.92	760.0	29.98	761.5	82	27.8	75	SW	5	2.2	.....	Haze	1ks	Calm	SW	0	0	Hazy.....	
Newport, Rhode Island.....	29.58	751.3	29.63	752.6	66	18.9	100	NE	5	2.2	.....	.....	10n	.....	Calm.	0.41	10.4	Light rain...	
New York, New York.....	29.40	746.7	29.57	751.1	69	20.6	79	NE	22	9.8	.....	.....	10ks	.....	NE	0.11	2.8	Cloudy.....	
Norfolk, Virginia.....	29.63	752.6	29.68	753.9	81	27.2	63	SW	4	1.8	.....	.....	8s	.....	NW	0	0	Cloudy.....	
North Platte, Nebraska.....	26.95	684.5	29.38	746.2	68	20.0	87	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	47.5	8.6	92	S	7	3.1	.....	0	8n	.....	SW	1.29	32.8	Light rain...	
Omaha, Nebraska.....	28.66	727.7	29.66	753.4	82	27.8	67	S	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear.....	
Oswego, New York.....	29.42	747.3	29.73	755.1	64	17.8	83	NE	10	4.5	.....	0	0	.....	.....	2.02	51.3	Clear.....	
Pembina, Dakota.....	28.85	732.3	29.61	752.1	65	18.3	94	S.	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Philadelphia, Pa.....	29.52	749.6	29.67	751.1	74	23.3	81	NW	17	7.6	.....	.....	10ks	.....	NW	0.41	10.4	Cloudy.....	
Phœnix, Arizona.....	28.69	728.7	30.40	772.1	78	25.6	73	NE	2	0.9	.....	0	2ks	.....	S	0	0	Fair	
Pike's Peak, Colorado.....	18.02	457 7	30.23	767.6	42	5.6	27	SW	16	7.2	.....	0	0	.....	.....	0.04	1.0	Clear.	
Ploche, Nevada.....	.....	.....	.....	.....	68	14.4	8	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania....	28.96	735.6	29.72	754.9	71	21.7	80	NE	6	2.7	.....	5k	0	N	.....	0.68	17.3	Fair	
Port Huron, Michigan.....	29.15	740.4	29.79	756.7	61	16.1	100	NE	6	2.7	.....	.....	Fog	.....	Calm	0.80	20.3	Dense fog...	
Portland, Maine.....	29.05	738.1	29.70	754.4	67	19.4	79	N	4	1.8	.....	5k	0	Calm	.....	0.09	2.3	Fair.....	
Portland, Oregon.....	29.97	761.2	30.04	763.0	51.5	10.8	86	S	7	3.1	.....	0	5ks	.....	S; SW	0.64	16.3	Cloudy	
Prescott, Arizona.....	24.79	629.6	30.15	765.8	62	16.7	61	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas.....	29.19	741.4	29.96	761.0	91	32.8	80	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida.....	29.98	761.5	30.00	762.0	88	28.8	71	W	9	4.0	.....	5k	0	W	.....	0	0	Fair.....	
Red Bluff, California.....	29.86	750.8	29.91	759.7	68	20.0	70	S	2	0.9	.....	10k	0	S	.....	0.03	0.8	Cloudy.....	
Rio Grande City, Texas.....	29.67	753.6	29.87	758.7	84	28.9	61	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.15	740.4	29.78	755.1	66	18.9	74	NE	8	3.6	.....	1c	Haze	Calm	.....	0.39	9.9	Clear.....	
*Roseburg, Oregon.....	29.52	749.8	30.10	764.5	48	8.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Sacramento, California.....	29.85	758.2	29.93	760.2	61	16.1	77	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.	
St. Louis, Missouri.....	29.26	743.2	29.78	756.4	82	27.8	63	SW	9	4.0	.....	2k	5s	W	Calm	0	0	Fair..	
St. Marks, Florida.....	29.92	760.0	29.94	760.5	82	27.8	87	W	12	5.4	.....	0	7s	.....	W	0	0	Fair	
St. Paul, Minnesota.....	28.93	734.8	29.70	754.4	72	22.2	80	SW	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Salt Lake City, Utah.....	26.53	648.4	29.86	758.4	66	18.9	11	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas.....	29.20	741.7	29.75	755.6	78	25.6	78	SE	4	1.8	.....	0	8ks	.....	SE	0	0	Cloudy.....	
San Diego, California.....	29.92	760.0	29.98	761.5	60	15.6	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.16	740.7	29.79	756.7	70	21.1	80	NE	15	6.7	.....	.....	10ks	.....	NE	2.53	64.3	Threatening	
Sandy Hook, New Jersey....	29.52	749.8	29.85	758.0	67	19.4	95	NE	28	12.7	.....	.....	10n	.....	NE	0.22	5.6	Light rain...	
San Francisco, California..	29.91	759.7	29.97	761.2	58	14.4	91	SW	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico.....	23.30	591.8	29.84	757.9	63	17.2	33	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	29.74	755.4	29.83	757.7	92	33.3	54	W	8	3.6	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Shreveport, Louisiana.....	29.72	754.9	29.92	760.0	79	26.1	78	S	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear..... ..	
Silver City, New Mexico....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.72	754.9	29.76	755.9	86	30.0	76	W	7	3.1	.....	8cs	0	NW	.....	0	0	Cloudy	
Socorro, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill.....	29.15	740.4	29.81	757.2	83	28.3	64	Calm	0	0	.....	2ck	1s	Calm	Calm	0	0	Fair.....	
Springfield, Massachusetts	29.54	750.3	29.86	758.4	72	22.2	76	NE	4	1.8	.....	0	8ks	.....	NE	0.72	18.3	Cloudy.	
Stockton, Texas.....	29.85	682.0	29.85	758.2	76	24.4	84	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Thatcher's Island, Mass....	29.70	754.4	29.75	755.6	67	19.4	74	NE	6	2.7	.....	0	2s	.....	Calm	0	0	Fair.....	
Toledo, Ohio, ...	29.15	740.4	29.80	756.9	66	18.9	89	E	4	1.8	.....	10k	0	E	.....	0.73	18.5	Clearing....	
Tucson, Arizona.....	27.50	698.5	30.04	763.0	77	25.0	72	Calm	0	0	.....	5c	0	Calm	.....	0.38	9.7	Fair.....	
Umatilla, Oregon.....	29.68	753.9	30.18	766.6	50.0	10.0	72	NW	8	3.6	.....	0	2ks	.....	NW	0.15	3.8	Clear.....	
Uvalde, Texas.....	28.96	735.6	29.74	755.4	78	25.6	69	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.72	754.9	29.97	761.2	83	28.3	67	W	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana.....	24.10	612.1	29.68	753.3	60	15.6	44	SE	8	3.6	.....	5c	0	W	.....	0	0	Fair.....	
Visalia, California.....	29.57	751.1	29.94	760.5	68	14.4	74	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.54	750.3	29.64	752.8	77	25.0	69	NW	18	8.0	.....	0	0	.....	.....	0.72	18.3	Clear.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	73	22.8	43	E	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina....	29.65	753.1	29.72	754.9	87	30.6	69	W	5	2.2	.....	5cs	0	Calm	.....	0	0	Clear..	
Winnemucca, Nevada.....	25.59	650.0	29.95	760.7	58	14.4	76	Calm	0	0	.....	.....	8s	.....	W	0	0	Fair.....	
Wood's Holl, Mass.....	29.60	751.8	29.64	752.8	66	18.9	90	E	10	4.5	.....	.....	10n	.....	NE	0.15	3.8	Cloudy.....	
Yankton, Dakota.....	28.51	724.1	29.72	754.9	69	20.6	80	Calm	0	0	.....	5k	0	W	.....	0.22	5.6	Light rain...	
Yuma, Arizona.....	29.69	754.1	29.85	758.2	75	23.9	30	S	2	0.9	.....	0	0	.....	.....	0	0	Clearing,....	
SUB-SERIES.																		Clear.	
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.22	640.6	.....	.....	67.2	19.6	78	Calm	.....	.....	0	2c;cs	2ks	.....	.....	0.07	1.8	.....	Thomas Herran.
Navassa, W. I.....	29.90	759.4	29.98	761.5	81	27.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	80	26.7	87	E	.....	.....	2	4k	6ck	E	.....	0.640	16.26	Fair.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625(?) m.; Fort Sill, 1,100(?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.550 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.97 in., or 75.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.39 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 1—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.00‡	762.0‡	.....	.....	84	28.9	91	W	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.75‡	755.6‡	.....	.....	71.5	21.9	85	Calm	.....	.....	0	.....	1k	.....	W	Slight	Slight	.....	.....	Fair	
Adams. N. 25° 50′, W. 113° 20′	29.98‡	761.5‡	.....	.....	71	21.7	95	NW	.....	....	3	.....	5	.....	NW	.....	.....	Smooth	.....	Fair	
Alliance. Antwerp, Belgium	29.89‡	759.2‡	.....	.....	60	15.6	76	S	.....	.....	3	.....	7	.....	W	.....	.....	.....	.....	Cloudy	
Ashuelot, Yokohama, Japan	29.77‡	756.1‡	.....	.....	73	22.8	85	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado, New York, N. Y.	29.66‡	753.4‡	.....	.....	69	20.6	80	NNW	17	7.6	.....	.....	10	.....	S;W	0.03	0.8	.....	.....	Squally	
Constitution, League Isl. Navy Yard, Pa.	29.67‡	751.1‡	.....	.....	73	22.8	95	NNW	.....	.....	3	.....	10	.....	W	.....	.....	.....	.....	Overcast	
Enterprise, N. 56° 04′; E 16° 19′	29.72‡	754.9‡	.....	.....	58	14.4	88	WSW	.....	.....	4–5	.....	6	.....	wsw	.....	.....	.....	.....	Cloudy	
Franklin. Norfolk, Va.	29.70‡	754.4‡	.....	.....	79	26.1	70	SW	4.6	2.1	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Hartford. Montevideo, Uruguay	30.04‡	763.0‡	.....	.....	54	12.2	74	WSW	4	1.8	.....	.....	10?	.....	.....	0	0	.....	.....	Clear?	
Independence, Mar. I'd. Navy Yard, Cal.	29.98‡	761.5‡	.....	.....	64	17.8	38	SW	5	2.2	.....	.....	4?	.....	SW	.....	.....	.....	.....	Cloudy	
Kearsarge, N. 40° 10′ W. 53° 37′	29.88‡	758.9‡	.....	.....	73	22.8	85	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	Long	wsw	Clear	
Michigan, Erie, Pa.	29.71‡	754.6‡	.....	.....	68	20.0	84	NNE	.....	.....	4	.....	5	.....	NNE	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	29.87‡	758.7‡	.....	.....	84	28.9	87	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.86‡	756.9‡	.....	.....	78	25.6	73	WSW	.....	.....	1	.....	k	.....	.....	Light	Light	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	29.81‡	757.2‡	.....	.....	87	30.6	76	W	12	5.4	.....	.....	2	.....	Calm	0.01	0.3	.....	.....	Clear	
Onward, Callao, Peru	30.21‡	767.3‡	.....	.....	62	16.7	83	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Raining	
Palos, Shanghai, China	29.89‡	759.2‡	.....	.....	82	27.8	96	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	78	25.6	91	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.01‡	762.2‡	.....	.....	62	16.7	83	NNW	6	2.7	.....	.....	8	.....	N	0	0	Smooth	.....	Fair	
Portsmouth. Boston, Mass.	29.63‡	752.6‡	.....	.....	62	16.7	100	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Powhatan, Portland, Me.	29.64‡	752.8‡	.....	.....	66	18.9	79	NNE	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.82‡	757.4‡	.....	.....	78	25.6	65	NE	.....	.....	4	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Ranger, Hong-Kong, China	.....	.....	.....	.....	79	26.1	91	SSE	.....	.....	1	.....	10?	.....	Calm	.....	.....	Smooth	Calm	Clear?	
Richmond, Yokohama, Japan	29.80‡	756.9‡	.....	.....	75	23.9	81	Calm	.....	.....	0	.....	2	.....	.....	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.88‡	758.9‡	.....	.....	82	27.8	91	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	29.67‡	753.6‡	.....	.....	76	24.4	91	WNW	.....	.....	2	.....	0	.....	.....	0.69	17.5	.....	.....	Clear	
Saratoga. New York City, N. Y.	29.67‡	751.1‡	.....	.....	70	21.1	90	ENE	.....	.....	5	.....	8	.....	ENE	Light	Light	Smooth	.....	Squally	
St. Louis, League Island, Pa	29.58‡	751.3‡	.....	.....	74	23.3	86	NW	8	3.6	.....	.....	10	.....	NW	0.54	13.7	.....	.....	Cloudy	
Trenton, Antwerp, Belgium	29.90‡	759.4‡	.....	.....	67	19.4	74	SSW	.....	.....	2	.....	8	.....	wsw	0.04	1.0	Smooth	.....	Cloudy	
Tuscarora, Mare Island Navy Yard, Cal	29.98‡	761.5‡	.....	.....	61	16.1	94	SW	.....	.....	3	.....	10	.....	Calm	0	0	Smooth	.....	Overcast	
Vandalia, New London, Conn.	29.61‡	752.1‡	.....	.....	67	19.4	89	NE	.....	.....	4	.....	10	.....	NE	.....	.....	Smooth	.....	Rainy	
Wabash, Boston, Mass.	29.65‡	753.1‡	.....	.....	65	18.3	84	SE	7	3.1	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wyoming, Trieste, Austria	30.00‡	762.0‡	.....	.....	76	24.4	41	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	Smooth	NW	Clear	
Wachusett, Vicksburg, Miss.	29.88‡	758.9‡	.....	.....	80	26.7	82	SW	.....	.....	2–3	.....	Haze	.....	.....	.....	.....	.....	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			R. Searle.
S. S. Colima, N. 8° 31′, W. 83° 52′ †		29.98‡	761.5‡	80	26.7	96	W		2		4		W	0	Mod'ate	S	D. clouds		Capt. Whitebur.
S. S. Costa Rica																			R. Lawless.
S. S. Dakota, Capt. H. G. Morse, N. 43° 09′, W. 124° 48′ †		30.06‡	763.5‡	58	14.4		NW		1		0		NW?	0	Mod'ate	NW	Clear		Capt. Connolly.
S. S. Georgia																			F.W.Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 27° 48′, W. 145° 11′		30.06‡	763.5‡				NNE			1			SW		Light	NW	Pleasant		
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S.S Gaelic, Capt. Davidson, Yokahama, Japan †		29.90‡	759.4‡	76	24.4		NE			4		k		NE	0	Smooth		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 29° 18′, E. 126° 50′		29.81‡	757.2‡	82	27.8	83	SW			3		2		SW		Smooth		D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OR BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peifer, N. 47° 39′, W. 39° 41′		30.00‡	762.0‡	66.0	18.9	94	S			3		10			4 h'rs	Smooth	S	Foggy	S. Risius, 2d Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.78‡	756.4‡				W			4		8		NW				Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.66‡	753.4‡	75	23.9	86	E			3		8		NE	0			Cloudy	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 49° 42', W. 11° 28'		29.51‡	794.5‡				W	30	13.4			8		WNW		Mod'ate	WSW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Off Tortugas, Gulf of Mex.		30.06‡	763.5‡	83	28.3	75	W SW	2	0.9			2k		N	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.08‡	764.0‡				E			1		2			0	Tranquil.		Fine	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.97	761.3	70.5	21.4	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.93	760.3	69.2	31.8	66	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.88	758.9	83.5	28.6	64	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourlliere.
La Calle	.....	.....	29.92	759.9	77.9	25.5	74	ENE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.11	764.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.98	761.4	96.4	35.8	11	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.02	762.4	86.9	30.5	30	N	.....	.....	7	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.02	762.6	83.1	28.4	39	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.00	762.0	94.3	¶34.6	30	NW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.99	761.8	94.6	34.8	34	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.39	746.5	29.52	749.8	77.4	25.2	43	S	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	741.9	29.95	760.8	69.8	21.0	54	NE	.....	.....	1	.....	5	.....	.....	0.012	0.3	.....	Dr. Wierzbiski.
Eperies	29.14	740.1	29.99	761.8	66.2	19.0	65	Calm	.....	.....	0	c	8s	.....	.....	0.193	4.90	.....	Julius Mikolik.
Gratz	28.68	728.4	29.87	758.8	74.7	23.7	56	SE	.....	.....	3	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.62	727.0	29.99	761.8	74.5	23.6	64	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.46	722.8	29.73	755.1	73.8	23.2	65	ENE	.....	.....	4	.....	3	.....	.....	0.094	2.4	.....	Prof. C. Wagner.
Lemberg	28.97	735.8	29.92	760.0	67.6	19.9	53	NW	.....	.....	2	.....	8	.....	.....	0.008	0.2	.....	Dr. T Stanecki.
Pola	29.87	758.7	29.98	761.4	83.1	28.4	35	SSE	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.60	751.9	30.06	763.4	69.3	20.7	61	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.65	753.2	29.92	760.0	76.3	24.6	40	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.88	759.0	29.98	761.6	82.4	28.0	38	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	P. Busin.
Vienna	29.17	741.0	29.92	760.0	74.5	23.6	55	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.64	752.8	29.74	755.4	52.0	11.1	.....	ENE	23	10.3	.....	.....	7	.....	.....	0.225	5.72	Squally.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.42	747.3	29.65	753.1	50.5	10.3	.....	NNE	5	2.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.47	748.5	56.5	14.7	.....	NNE	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.45	748.0	57.5	14.3	.....	ENE	6	2.7	.....	.....	8	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	3.6	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	81.5	27.5	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.42	747.3	29.51	749.5	63.0	17.2	.....	S	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	H. Todd.
Cardington	.....	.....	29.46	748.3	64.5	18.1	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.41	747.0	29.54	750.3	61.8	16.6	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.56	750.8	29.60	751.8	63	11.7	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.54	750.3	29.57	751.1	60	15.6	.....	SW	.....	.....	3	.....	4	.....	.....	.....	.....	⅗ clouded	J. Costello.
Falmouth, Observatory	29.31	744.5	29.54	750.3	57.8	14.3	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier (Natal)	27.88	708.1	30.16	766.1	59.0	15.0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	75	23.9	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.61	752.1	59	15.0	.....	NNE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.85	758.2	29.90	759.4	79.9	26.6	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.42	747.3	29.63	752.6	49.1	9.5	.....	NE	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.54	750.3	29.54	750.3	60	15.6	.....	SSE	.....	.....	4	.....	8	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.35	745.5	29.52	749.8	61.3	16.3	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.33	745.0	29.54	750.3	57.5	14.2	.....	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	Squally	Dr. S.E.Hoskins,F.R.S.
Helston	29.50	749.3	29.62	752.3	59	15.0	.....	NW	.....	.....	2	.....	10n	.....	.....	0.30	7.6	Raining	M. P. Moyle.
Holyhead	29.48	748.8	29.51	749.5	54	12.2	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.31	744.5	29.60	751.8	58.0	14.4	.....	WSW	.....	.....	6	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	29.47	748.5	29.51	749.5	60.0	15.6	.....	S	20	8.9	.....	.....	9	.....	.....	.....	.....	Showery	The Met'g'l Office.
Leicester, Museum	29.27	743.4	29.51	749.5	62.3	16.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.96	761.0	30.03	762.7	76.4	24.7	.....	S	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.64	752.8	29.73	755.1	55	12.8	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.01	762.2	87.0	30.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.30	744.2	29.48	748.8	63.7	17.6	.....	S	.....	.....	3	.....	10ks;cks	.....	SSE	0.373	9.48	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.93	734.8	29.43	747.5	64.9	18.3	.....	ESE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.48	748.8	59	15.0	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.41	747.0	29.49	749.0	61.0	16.1	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Prince Town	28.06	712.7	29.51	749.5	52.5	11.4	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. H. Tooker.
*Roche's Point	29.54	750.3	29.64	752.8	54	12.2	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Covered	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	N	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.79	756.7	54.1	12.3	.....	E	15	6.7	.....	.....	10	.....	.....	.....	.....	Misty	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.89	759.2	29.95	760.7	84.8	29.3	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.23	742.4	29.50	749.3	63.9	17.7	.....	SE	.....	.....	1	.....	9	.....	.....	0.63	16.0	Overcast	W. F. Cooper.
Silloth Rectory	29.52	749.8	29.55	750.6	54.2	12.3	92	SW	.....	.....	4	.....	10	.....	.....	0.610	15.49	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.50	749.3	55.5	13.1	.....	NNE	4	1.8	.....	.....	10	.....	.....	.....	.....	Gloomy	Rev. S. J. Perry.
Stratfield, Turgiss	29.29	744.0	29.50	749.3	59.3	15.2	.....	S	.....	.....	1–2	.....	9	.....	.....	.....	.....	Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.54	750.3	29.56	750.8	61	16.1	.....	W	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.64	752.8	29.67	753.6	59.0	15.0	.....	N	17	7.6	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	72.8	22.7	43	NW	2.4	1.1	.....	2	6	.....	.....	0	0	Fair	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.29	769.4	40	4.4	79	NW	.....	.....	2	.....	7kn	.....	.....	0	0	.....	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.66	753.4	54.8	12.7	.....	E	.....	.....	3	.....	10ks	.....	.....	1.45	36.8	Overcast	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.9	72.0	22.2	70	SSE	10.5	4.7	.....	.....	10	.....	WNW	0	0	Gloomy	C. Meldrum.
Melbourne, Observatory	30.34	770.6	30.43	772.9	48.0	8.9	75	N	10	4.5	.....	.....	3	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.76	755.9	53	11.7	.....	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.86	758.4	50	10.0	.....	NE	.....	.....	6	2	7	NE	.....	0	0	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Sea or swel Height scale 0—9	Sea or swel Direction from—	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 30′, E. 28° 50′	.....	.....	NNE	.....	.....	6	8	.....	Squally	Capt. W. J. L. Wharton.
Algeria, N. 43° 20′, W. 47° 25′	.....	.....	SSW	.....	.....	2	10	.....	Overcast	Capt. Wm. Watson
Agnes Wilson, N. 40° 10′, W. 56° 25′	2	S	NNE	.....	.....	4	3	.....	D. clouds	Capt. H. W. Dyke.
Astarte, N. 47° 00′, W. 30° 20′	3	SW	WSW	.....	.....	3	8	.....	Foggy	Capt. Parson.
Barque Commewyne, N. 7° 35′, W. 54° 30′	.....	.....	E	.....	.....	3	3	.....	D. clouds	Capt. A. Buchan.
Theophane, S. 27° 30′, E. 1° 55′	.....	.....	NNW	.....	.....	2	10	.....	Overcast	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.24	666.5	29.96	761.0	67.6	19.8	88	SE	.....	.....	2	2c;ck	2d	.....	E	0.3	8.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.84	757.8	29.88	759.0	61.7	16.5	62	SE	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	29.73	755.2	29.75	755.7	62.8	17.1	63	SE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	30.00	762.1	30.05	763.2	40.6	4.8	90	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.02	762.6	30.07	763.7	52.0	11.1	74	SE	.....	.....	6	.....	8	.....	.....	.....	.....	.....	Foggy
Thorshavn (Faröe)	30.00	762.1	30.04	763.0	50.4	10.2	71	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.69	754.2	29.80	757.0	62.1	16.7	66	ESE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.14	740.1	29.69	754.1	62.2	16.8	83	S	.....	.....	1	.....	8	.....	S	0.567	14.4	Very cloudy	Collignon, Director.
Amiens, Normal School	29.51	749.6	29.62	752.3	68.7	20.4	96	SSW	.....	.....	1	.....	8	.....	NE	0.567	14.4	Very cloudy	Ronvallet, Director.
Arras, Engin'r School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Klein, Commandant.
Avignon, Normal School	29.73	755.2	29.81	757.2	70.5	21.4	63	SSE	.....	.....	5	.....	8	.....	SSE	0	0	Very cloudy	Giraud, Director.
Par-sur-Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Saillard, Director.
Beauvais, Normal School	29.38	746.3	29.64	752.8	66.2	19	70	SW	.....	.....	2	.....	8	.....	SW	0.394	10.00	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.93	734.7	29.80	757.0	59.0	15	85	S	.....	.....	1	.....	10	.....	SW	0.386	9.8	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.94	735.0	29.85	758.3	60.1	15.6	83	S	.....	.....	5	.....	n	N	N	0.55	14.	.....	Marlot, Director.
Bourges, Normal School	29.21	742.0	29.75	755.6	65.1	18.4	76	W	.....	.....	1	.....	8ck	W	W	.....	.....	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.39	746.6	29.64	752.8	64.4	18.0	74	W	.....	.....	3	.....	9	.....	W	0.197	5.00	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.42	747.3	29.83	757.6	62.6	17	90	W	.....	.....	3	.....	10	.....	W	0.035	0.9	Covered	September, Dir.
Caen, Normal School	29.52	749.9	29.60	751.7	55.0	12.8	60	SW	.....	.....	1	.....	.....	.....	SW	0.322	8.2	.....	Lair, Director.
Chartres, Normal School	29.02	737.2	29.57	751.0	67.6	19.8	80	SW	.....	.....	1	.....	8	.....	SE	0.24	6.	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.37	746.0	29.68	753.9	59.7	15.4	91	SW	.....	.....	1	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.40	721.4	29.70	754.4	68.0	20.0	58	SW	.....	.....	1	.....	10	.....	SW	0.169	4.3	.....	Alluard, Director.
Commercy, Normal School	28.86	733.1	29.71	754.5	58.3	14.6	93	SSW	.....	.....	3	.....	10	.....	.....	0.071	1.8	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.76	730.5	29.90	759.5	70.3	21.3	50	SE	.....	.....	6	.....	8	.....	SE	0.020	0.5	.....	L. Kina, Director.
Grenoble, Normal School	29.11	739.4	29.91	759.7	58.6	14.8	91	W	.....	.....	1	.....	10kn	.....	NE	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.56	750.8	29.78	756.1	64.0	17.8	72	SW	.....	.....	1	.....	8	.....	SW	0.740	18.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.39	746.5	29.69	754.2	59.4	15.2	91	WNW	.....	.....	3	.....	8	.....	W	0.75	19.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.84	732.5	29.74	755.3	61.0	16.1	55	S	.....	.....	3	.....	10	.....	NW	0.380	9.80	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.61	752.1	29.71	754.6	63.0	17.2	70	SSW	.....	.....	6	.....	.....	.....	SW	0.425	10.8	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.59	751.6	29.85	758.3	71.6	22 0	68	SE	.....	.....	5	.....	7	.....	.....	0.689	17.50	Very cloudy	E. Stephan, Director.
Mirecourt, Normal School	28.73	729.6	29.76	755.7	59.7	15.4	87	SSW	.....	.....	1	.....	10	.....	SSW	0.24	6.	Covered	Barbier, Director.
Mont-Louis	24.90	632.4	30.21	767.4	64.4	18.0	62	ESE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nîmes, Normal School	29.01	752.0	29.80	757.0	69.4	20.8	72	S	.....	.....	7	.....	10	.....	S	0	0	Covered	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.39	746.4	69.8	16.0	75	WSW	.....	.....	1	.....	10	.....	WSW	0.374	9.5	.....	Marié Davy, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.43	569.9	.....	.....	39.7	4.3	.....	SW	.....	.....	2	.....	10	.....	.....	0.232	5.9	Threatening	Gen'l de Nansouty.
Perpignan	29.65	753.0	29.75	755.6	70.5	21.4	85	NE	5.6	2.5	.....	.....	10	W	.....	0.463	11.5	Thunder-storm.	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	24.96	633.8	.....	.....	47.8	8.8	100	W	.....	.....	7	.....	.....	.....	.....	0.217	5.5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.77	756.1	29.80	756.9	66.9	19.4	68	WSW	.....	.....	2	.....	5	W	W	0.08	2.	⅝ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.54	750.2	29.62	752.4	66.2	19.0	59	SSW	.....	.....	1	.....	2	.....	W	0.394	10.0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.58	751.3	29.61	752.1	57.9	14.4	92	WNW	.....	.....	2	.....	10	WNW	WNW	0.261	6.37	Rainy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.50	749.4	29.67	753.6	61.5	16.4	83	S	.....	.....	1	.....	10	.....	SW	0.276	7.0	.....	E. Renou, Director.
Tarbes, Normal School	28.80	731.4	29.88	758.9	73.9	23.3	66	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.19	741.4	29.91	759.7	61.0	16.1	99	WNW	.....	.....	1	.....	9	.....	.....	0.476	12.1	.....	M. Julier Mercadier.
Tours	29.55	750.6	29.75	755.6	.....	.....	.....	W	.....	.....	2	.....	8	.....	W	0.528	13.4	.....	Cousin-Marquet.
Versailles, Observatory	29.17	740.9	29.66	753.4	64.8	18.2	66	SW	.....	.....	1	.....	.....	.....	.....	0.294	7.49	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.08	738.5	29.78	756.4	60.3	15.7	95	NNW	.....	.....	1	.....	8	.....	N	1.150	29.2	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.17	740.9	29.78	756.4	60.4	15.8	91	SSE	.....	.....	1	.....	10	.....	.....	1.063	27.0	Heavy rain	Ch. André, Director.
Nice	.....	.....	29.97	761.3	72.1	22.3	64	E	.....	.....	5	.....	8	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.72	755.0	29.75	755.7	82.4	28.0	86	SSE	9.4	4.2	.....	.....	2	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,580.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.9	29.81	757.2	72.1	22.3	65	S			2		8	S		0.024	0.6	Raining	Prof. Dr. Hoh.
Berlin	29.70	754.3	29.86	758.5	70.5	21.4	47	SE			1		2			0	0		Prof. Dr. Arndt.
Breslau	29.42	747.3	29.95	760.7	70.7	21.5	44	SE			2		4			0	0		Royal University Obs'y.
Carlsruhe	29.35	745.5	29.77	756.1	61.9	16.6	92	SSW			0		10	S		0.177	4.5	Raining	Albert Senz.
Cassel	29.22	742.3	29.83	757.6	68.7	20.4	83	SSW			2		10	SSW		0.270	6.86		Dr. H. Möhl.
Crefeld	29.50	749.2	29.66	753.3	66.2	19.0	81	SE			4		9			0.08	2.		Director Lose.
Emden			29.69	754.1	67.2	14.0	74	SSW			2		8			0.059	1.5		Prof. Dr. Prestel.
Frankfort on the Main	29.45	748.0	29.81	757.2	63.1	17.3		SSE			2		10			0.071	1.8		Physical Society.
Freienwalde on the Oder	29.80	756.9	29.84	757.9	72.0	22.2	42	SSE			3	3c		SW		0	0		Dr. Assmann.
Friedrichshafen	28.34	719.7	29.71	754.5	71.6	22.0	65	SW			2		5	SW		0.291	7.4		M. Wilhelm.
Hamburg	29.70	754.4	29.77	756.1	68.7	20.4	64	ESE			5		9ks			0.004	0.1	Fair	Captain F. Hegemann
Kiel	29.76	756.0	29.78	756.4	67.1	19.5	57	ESE			3		6			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.5	65.8	18.8	52	W			3		2			0.161	4.1		Prof. E. Luther.
Köslin			29.90	759.5	66.0	18.9		S			2		2			0	0		H. Müller.
Leipsic Observatory	29.40	746.8	29.81	757.1	74.1	23.4	48	ESE			3		9	S		0.004	0.1		Prof. Bruhns, Privy Counselor.
Memel	29.94	760.5	29.99	761.7	64.9	18.3	64	W			4		5s						Skalweit.
Munich (München)	27.97	710.5	29.82	757.4	74.7	23.7	35	E			5		8			0	0	Squally	Dr. C. Larg.
Neufahrwasser	30.00	762.0	30.02	762.4	63.0	17.2	63	NE			3		5			0.012	0.3		A. Lothes.
Posen	29.69	754.0	29.97	761.1	69.8	21.0	40	SE			4		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.26	743.2	29.80	756.9	61.2	16.2	90	SSE			2		10	SW		0.096	2.44	Raining	Imp. University Observatory.
Stuttgart	28.84	732.4	29.74	755.4	68.5	20.3	79	N			1		10			0.102	2.6	Raining	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.30	718.8	29.74	755.3	71.2	21.8	50	SSE	1.1	0.5			9ck			0	0		T. Hopfner.
Wustrow	29.84	758.0	29.87	758.6	68.4	20.2	52	SE			3		5s			0.016	0.4		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.8	29.97	761.2	85.6	29.8		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.4	29.59	751.7	83.3	28.5	69	W				5	W			0	0	D. clouds	
Dersa	29.18	741.1	29.64	752.9	87.8	31.0	57	SSW	22.4	10.0		9		WSW		0	0	D. clouds	
Bombay	29.75	755.7	29.79	756.6	84.1	28.9	79	W	17.0	7.6		10		SW		0.01	0.3	Overcast	
Poona	27.94	709.6	29.79	756.6	78.6	25.9	64	W				3		W		0	0	D clouds	
Lahore	28.70	729.0	29.40	746.8	101.2	38.4	41	SE	2.1	0.9		2				0	0	Blue sky	
Belgaum	27.29	693.2	29.84	758.0	73.2	22.9	86	W	9.0	4.0		10	W	W		0	0	D. clouds	
Roorkee	28.66	725.5	29.45	748.0	70.5	26.6	89	SE	1.6	0.7		8				0.66	16.8		
Agra	28.93	734.9	29.48	748.6	94.7	34.8	50	SW				8		SW		0	0		
Nagpur	28.58	726.0	29.60	751.9	89.7	32.1	47	NW	5.3	2.4		5		SE		0	0	D. clouds	
Lucknow	29.14	740.0	29.51	749.5	79.8	26.6	96	NW	4.0	1.8		10				2.13	54.1	Raining	
Allahabad	29.24	742.6	29.54	750.4	87.1	30.6	80	Calm	2.6	1.2		10				0	0	Overcast	
Patna	29.36	745.9	29.54	750.4	83.3	28.5	78	Calm	1.0	0.4		10				0.10	2.5	Overcast	
Hazaribagh	27.58	700.6	29.56	751.2	76.8	26.0	81	W	8.6	3.8		10				0	0		
Cuttack	29.54	750.2	29.62	752.3	81.7	27.6	75	NNW	3.0	1.3		9				0	0	D. clouds	
Calcutta (Alipore)	29.57	751.0	29.59	751.5	78.6	25.8	92	SW	4.0	1.8		10	W			0.02	0.5	Showery	
Goalpara	29.18	741.1	29.56	750.8	81.5	27.5	86	Calm	2.2	1.0		9				0.34	8.6	D. clouds	
Chittagong	29.58	751.3	29.67	753.7	80.3	26.8	89	ESE	10.4	4.6		10				0	0		
Sibsagar	29.26	743.3	29.60	751.7	83.4	28.6	83	W	2.6	1.2		10	SSW	SSW		0.47	11.9	D. clouds	
Jubbulpore	28.24	717.2	29.58	751.2	86.0	30.0	55	NW	4.9	2.2		8		E		0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer: Corrected or instrum'tal error and temperature. Inches.	Barometer: Corrected or instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.58	751.2	29.97	761.3	77.4	25.2	45	SW	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Cloffig.
Milan	29.46	748.3	29.97	761.2	72.9	22.7	50	SW	.....	.....	2	.....	10	SW	.....	0.083	2.1	.....	Prof. Schiaparelli.
Padua	29.85	758.3	29.96	761.0	76.1	24.5	55	ESE	8.7	3.9	.....	.....	9	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.04	737.7	29.92	759.9	64.8	18.2	78	N	4.3	1.9	.....	.....	10	.....	.....	0.319	8.1	.....	Prof. P. F. Denza.
Genoa	29.80	756.8	29.98	761.6	70.2	21.2	60	SW	4.9	2.2	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.3	29.89	759.2	64.6	18.1	54	NW	.....	.....	4	.....	9	SW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.89	759.3	29.94	760.5	77.4	25.2	58	E	8.7	3.9	.....	.....	7	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.71	754.7	29.97	761.1	83.3	28.5	30	S	.....	.....	2	.....	10	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.8	29.96	760.9	73.8	23.2	59	S	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.86	758.4	30.03	762.7	78.3	25.7	42	W	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.76	755.9	30.00	762.1	76.5	24.7	36	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.14	740.2	29.98	761.5	83.8	28.8	59	N	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.78	756.5	29.97	761.3	74.7	23.7	69	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.5	30.03	762.8	73.6	23.1	63	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.6	30.02	762.5	84.0	28.9	35	SSW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.9	30.08	764.0	75.2	24.0	62	SW	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.80	756.9	29.82	757.4	75.5	24.2	77	N	1.5	0.7	.....	.....	10s	.....	.....	0.018	0.46	Gloomy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.64	752.8	29.83	757.7	78.0	25.6	84	W	1.5	0.7	.....	.....	1s	.....	.....	0.030	0.76	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.80	756.9	29.87	758.7	68.7	20.4	81	ENE	4.4	2.0	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.77	756.1	29.82	757.4	74.0	23.3	80	S	2.8	1.3	.....	.....	0	.....	.....	0.005	0.13	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.7	30.12	765.1	58.1	14.5	74	W	.....	.....	1	.....	8	.....	N	0.32	8.0	Cloudy	Prof. L. Perez.
Leon	24.46	621.3	30.09	764.2	61.2	16.2	82	NW	.....	.....	2	4c	0	.....	.....	0.08	2.0	⅛ clouded	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.5	30.06	763.4	56.8	13.8	81	Calm	0	0	.....	3k	0	.....	.....	0.75	19.1	Clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.4	15.8	87	W	.....	.....	1	1c	0	.....	.....	0.12	3.1	Fine	M. V. de Leon, M. E
Tlacotalpam	29.88	759.0	29.89	759.3	78.4	25.8	87	Calm	.....	.....	0	4	0	E	.....	0	0	Fair	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.3	30.08	763.9	66.9	19.4	76	E	.....	.....	1	2	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.58	573.5	30.14	765.5	57.9	14.4	82	Calm	.....	.....	0	0	0	.....	.....	0.79	20.0	Fine	J. C. Castrillon.
Puebla (Catholic Institute)	23.44	595.3	30.20	767.1	55.9	13.3	88	Calm	0	0	.....	9ck	0	NE	.....	0.34	8.6	Cloudy	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mazatlan	29.71	754.6	29.99	761.8	78.1	25.6	93	Calm	.....	.....	0	0c	3k	.....	.....	0.12	3.0	Cloudy	Antonio Guerra y Guerra. F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.61	752.0	29.61	752.0	61.6	16.6	.....	W	.....	.....	2	.....	.....	.....	.....	0.087	2.2	.....	
Groningen	29.60	751.8	29.65	753.2	66.6	18.9	.....	S	.....	.....	1	.....	.....	.....	.....	0.055	1.4	.....	
Helder	29.60	751.9	29.60	751.9	63.1	17.3	.....	SSW	.....	.....	2	.....	.....	.....	.....	0.303	7.7	.....	
Hellevoetsluis	29.60	751.7	29.60	751.9	54.9	12.7	88	SE	.....	.....	1	.....	.....	.....	.....	0.355	8.5	.....	
Utrecht	29.57	751.1	29.62	752.3	68.2	20.1	74	SSE	.....	.....	3	5	.....	.....	.....	0.571	14.5	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.75	755.6	29.80	757.0	57.6	14.2	78	NW	9.8	4.4	.....	.....	10	.....	.....	0.091	2.3	.....	
Brönö	29.48	748.8	29.52	749.8	55.4	13.0	55	N	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.61	752.1	29.75	755.7	66.0	18.9	48	SSW	11	5	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.63	752.7	29.68	753.8	44.6	7.0	82	SW	11	5	.....	.....	10	.....	.....	0.160	3.8	Light rain...	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols.
The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.17	766.2	30.51	774.9	77.0	25.0	79	N	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.3	29.98	761.5	76.5	24.7	35	WNW	13.0	5.8	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.02	762.5	30.11	764.7	76.8	24.9	63	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.4	30.10	764.4	68.9	20.5	47	N	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.2	30.35	770.9	79.7	26.5	65	NNE	6.9	3.1	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 7° 01′, E. 12° 42′			30.03	762.8	73.9	23.3	.....	SSW	.....	.....	1	.....	0	.....	.....	1	SSW	Blue sky	J.C. M. Cabrate, 1st Lt.
																			J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.02	762.6	65.5	18.6	.....	NW	.....	.....	1	.....	10	.....	NW	1	NW	Overcast	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island			29.97	761.1	79.5	26.4	.....	N	.....	.....	1	.....	3	.....	N	.....	.....	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.93	760.1	80.6	27.0	.....	SW	.....	.....	1	.....	5	.....	SW	1	SW	D. clouds. 6 hr's rain-fall.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given.
The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.56	750.9	29.97	761.3	69.4	20.8	47	SW	2	1	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.55	750.5	29.96	760.9	64.0	17.8	53	W	7	3	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.61	752.1	29.84	758.0	68.5	20.3	60	S	4	2	.....	.....	4ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.80	757.0	29.82	757.4	64.0	17.8	71	W	11	5	.....	.....	8kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.39	744.1	29.91	759.7	66.6	19.2	51	WNW	9	4	.....	.....	8k;ks;c;	ck;n	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.1	29.96	760.9	75.2	24.0	48	N	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.95	760.8	29.97	761.3	74.8	23.8	73	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.27	743.4	29.80	756.8	64.4	18.0	70	W	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.52	749.7	29.71	754.7	77.7	25.4	58	WNW	22	10	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.82	757.5	29.84	758.0	62.8	17.1	44	W	2	1	.....	.....	3cs	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.42	721.9	29.73	755.2	94.5	34.7	29	Calm	0	0	.....	.....	3s	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.84	757.9	29.76	755.8	96.1	35.6	27	S	11	5	.....	.....	0	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.34	745.1	29.77	756.1	91.4	33.0	29	S	16	7	.....	.....	2ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.50	749.4	29.75	755.7	89.2	31.8	43	SE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.05	737.9	29.95	760.7	86.7	30.4	42	S	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.48	748.7	29.70	754.3	88.7	31.5	33	NNW	7	3	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.12	714.3	29.56	750.9	91.4	33.0	56	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.18	741.1	29.65	753.0	77.9	25.5	45	NE	13	6	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.60	749.3	29.78	756.3	78.8	26.0	84	NNW	2	1	.....	.....	3	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	
Peking (China)	29.53	750.1	29.67	753.7	76.8	24.9	82	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.60	751.7	29.69	754.2	76.9	21.6	93	SE	5.1	2.3	.....	.....	8ks	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.66	753.3	29.76	755.9	77.5	25.3	66	SE	3.5	1.58	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.7	29.97	761.1	64.0	17.8	85	NW	2.2	0.98	.....	1	8	W	.....	0.378	9.6	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.3	.....	.....	67.1	19.5	44	SW	11.2	5.0	.....	.....	3	.....	.....	0.039	1.0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.67	702.9	29.76	755.9	72.3	22.4	32	W	14.2	6.33	.....	0	1	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.60	751.9	29.74	755.5	100.8	38.2	32	E	4.8	2.17	.....	5	2	NE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.08	738.5	29.95	760.8	66.6	19.2	75	W	10.5	4.7	.....	.....	7	.....	.....	0.461	11.7	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Santiago, Met. Obs'y	29.96	761.1	30.03	762.7	82.1	27.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Havana, Cuba, W. I	29.89	758.9	29.93	760.2	81.0	27.0	81	NE	0.7	0.3	.....	.....	3s	W	.....	0.031	0.8	Clear	Federico Faura, S. J.
Manilla, Philippine Islands	29.88	759.1	29.98	761.5	77.7	25.4	64	WNW	18.0	8.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Fernando, Naval Obs'y	29.95	760.7	30.04	763.0	83.1	28.4	76	SE	1.1	0.50	.....	2b	3k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

San Juan de Porto Rico, W. I.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.78	756.4	29.82	757.4	57.2	14.0	.....	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.81	757.2	29.86	758.5	59.0	15.0	49	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.79	756.7	29.84	758.0	64.0	17.8	58	S	.....	.....	4	.....	1	.....	.....	0	0	.....	
Stockholm	29.70	754.3	29.87	758.8	68.0	20.0	41	NNE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	29.78	756.3	29.84	757.8	63.7	17.6	74	NW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.77	756.2	29.86	758.4	69.4	20.8	88	S	6.7	3.0	.....	.....	2	W	W	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 43° 10', W. 13° 36'	.....	.....	30.15	765.7	63.1	17.3	.....	NNW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.44	722.4	29.87	758.6	57.0	12.8	100	NE	.....	.....	1	.....	10	.....	.....	0.008	0.2	Raining	The Observatory.
Zurich	28.20	716.3	29.80	757.0	65.1	18.4	74	W	.....	.....	4	.....	10	.....	.....	0.315	8.0	Covered	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.1 mm.; Thermometer,—9.7 Cent.; Relative Humidity, +47 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.01	762.2	76.5	24.7	58	NNE	16	7.0	.....	.....	6	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	.....	
Valona	.....	.....	30.11	764.9	81.5	27.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.79	756.6	90.7	32.6	57	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.74	755.4	29.80	756.9	64	17.8	78	SW	4	1.8	.....	8k	2ks	SW	SW	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.81	757.2	29.85	758.2	66	18.9	87	S	6	2.7	.....	2cs	2s	NW	.....	0.355	9.02	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.62	752.3	29.80	756.9	70.5	21.4	74	W	.....	.....	3	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.64	752.8	29.80	756.9	65	18.3	73	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.73	755.1	29.76	755.9	56	13.3	89	NE	5	2.2	.....	5c	5s	W	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.87	758.7	70.1	21.2	65	E	2	0.9	.....	1c	0	.....	.....	0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba	28.89	733.8	29.03	763.0	66	18.9	89	W	4	1.8	.....	0	2ks	.....	W	0.130	3.30	Fair	James Stewart.
Granton, Ontario	28.84	732.6	29.89	759.2	71	21.7	80	S	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.80	756.9	29.91	759.7	73	22.8	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.58	751.3	29.93	760.2	70.9	21.6	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.57	751.1	29.89	759.2	69	20.6	77	W	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	62.7	17.1	87	E	3	1.3	.....	3k	0	SW	.....	0.04	1.0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.65	753.1	29.64	757.9	71	21.7	68	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.19	741.4	29.85	758.2	72	22.2	85	S	3	3.6	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.15	740.4	29.86	758.4	73.7	23.2	77	S	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.91	759.7	68	20.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.28	743.7	29.89	759.2	72	22.2	80	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.53	750.0	29.84	757.9	67	19.4	74	W	.....	.....	1	0	2s	.....	W	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.38	746.2	29.82	757.4	64	17.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.81	757.2	29.87	758.7	67	19.4	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	62	16.7	66	S	8	3.6	.....	1c	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.1	29.85	758.2	74	23.3	75	SW	11	4.9	.....	2k	0	W	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.66	727.7	29.88	758.9	65.2	18.4	97	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.89	759.2	58	14.4	96	SW	1	0.4	.....	.....	10n	.....	.....	0.13	3.3	Cloudy	T. C. Hill.
*Toronto, Ontario	29.54	750.3	29.91	759.7	70	21.1	86	SW	6	2.7	.....	2ck	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.85	758.2	29.94	760.5	78.0	25.6	59	S	1	0.4	.....	1c	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Woodstock	28.88	733.5	29.89	759.2	73.3	22.9	78	SW	3	1.3	.....	1cs	.....	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.98	761.5	52.0	11.1	93	Calm	0	0	.....	Fog	Fog	.....	.....	0	0	Foggy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.94	760.5	73	22.8	67	S	4	1.8		0	0			0	0	Clear	
Alpena, Michigan	29.21	741.9	29.81	757.2	73	22.8	55	SW	4	1.8		0	0			0	0	Clear	
Atcha, Aleutian Is., Alaska					45	7.2	100	SW	25	11.2			10n		W	0.57	14.5	Cloudy	
Atlanta, Georgia	28.76	730.5	29.83	757.7	82	27.8	59	W	7	3.1		5k	0	Calm		0	0	Fair	
Atlantic City, New Jersey	29.95	760.7	29.96	761.0	70	21.1	70	NE	12	5.4		0	0			0	0	Clear	
Augusta, Georgia	29.72	754.9	29.90	759.4	87	30.6	55	NW	2	0.9		2cs	1s	NW	Calm	0	0	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	75	23.9	64	E	4	1.8		2c	2s	W	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	68	20.0	79	NE	8	3.6		0	0			Inap.	Inap.	Clear	
Bismarck, Dakota	28.00	711.2	29.86	758.4	66	18.9	54	N	12	5.4		5k	0	Calm		0	0	Fair	
Boerne, Texas	28.47	723.1	29.72	754.9	74	23.3	81	SW	8	3.6		0	0			0	0	Clear	
Boise City, Idaho	27.14	689.3	30.10	764.5	55	12.8	62	E	3	1.3		5k	2s	W	W	0	0	Fair	
Boston, Massachusetts	29.80	756.9	29.94	760.5	75	23.9	52	Calm	0	0		0	0			0	0	Clear	
Brackettville, Texas	28.76	730.5	29.74	755.4	78	25.6	69	SE	3	1.3		0	0			0	0	Clear	
Breckenridge, Minnesota	28.70	729.0	29.62	752.3	75	23.9	81	E	10	4.5		0	8ks		Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.85	758.2	29.89	759.2	81	27.2	74	SE	8	3.6		0	0			0	0	Clear	
Buffalo, New York	29.22	742.2	29.89	759.2	70	21.1	70	E	2	0.9		2cs	0	W		0	0	Clear	
Burkes, Arizona					79	26.1	33	SW			1	0	0			0	0	Clear	
Burlington, Vermont	29.61	752.1	29.89	759.2	70	21.1	75	SW	8	3.6		0	0			0	0	Clear	
Cairo, Illinois	29.54	750.3	29.91	759.7	79	26.1	78	NE	6	2.7		2ck	5s	W	Calm	0	0	Fair	
Campo, California	27.45	697.2	30.02	762.5	48	8.9	93	SW	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.91	759.7	29.92	760.0	75	23.9	77	NE	15	6.7		1c	5s	Calm	NE	0.04	1.0	Fair	
Cape Henry, Virginia	29.91	759.7	29.93	760.2	73	22.8	76	NE	14	6.3		5c	0	NW		0	0	Fair	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759.4	78	25.6	78	NE	20	8.9		2ck	0	W		0.73	18.5	Fair	
Cape May, New Jersey	29.92	760.0	29.95	760.7	68	20.0	84	E	10	4.5		2c	0	NW		0	0	Fair	
Castroville, Texas	29.12	739.6	29.79	756.7	77	25.0	69	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	29.78	756.4	29.84	757.9	85	29.4	72	N	5	2.2		2ck	0	Calm		0	0	Fair	
Charlotte, North Carolina	29.09	738.9	29.85	758.2	78	25.6	78	NE	8	3.6		8ck;k	2ks	W	SW	0	0	Cloudy	
Chattanooga, Tennessee	29.13	739.9	29.88	758.9	82	27.8	60	SW	3	1.3		2cs	0	Calm		0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	55	12.8	62	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.20	741.7	29.85	758.2	78	25.6	69	SW	3	1.3		0	0			0	0	Clear	
Cincinnati, Ohio	29.26	743.2	29.87	758.7	79	26.1	70	SE	2	0.9			9s		NW	0	0	Cloudy	
Cleveland, Ohio	29.22	742.2	29.91	759.7	68	20.0	74	E	4	1.8		1ck	0	SW		0	0	Clear	
Coleman City, Texas	28.06	712.7	29.63	752.6	78	25.6	65	S	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.10	739.1	29.89	759.2	77	25.0	65	NE	1	0.4		8k	0	NE		0	0	Fair	
Concho, Texas	27.95	709.9	29.51	749.5	80	26.7	59	S	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.44	747.8	29.88	758.9	80	26.7	78	S	8	3.6		2ck	0	Calm		0	0	Clear	
Davenport, Iowa	29.27	743.4	29.87	758.7	74	23.3	81	SW	1	0.4		0	0			0	0	Clear	
Deadwood, Dakota	25.36	644.1			59	15.0	70	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.74	730.0	29.83	757.7	85	29.4	79	S	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.03	737.3	29.77	756.1	80	26.7	74	S	12	5.4		5k	0	S		0	0	Fair	
Denver, Colorado	24.79	629.6	30.01	762.2	67	19.4	42	S	8	3.6		0	Sm'e			0	0	Clear	
Des Moines, Iowa	29.00	736.6	29.84	757.9	71	21.7	75	Calm	0	0		0	Haze		Calm	Inap.	Inap.	Clear	
Detroit, Michigan	29.25	742.9	29.88	758.9	69	20.6	85	SW	2	0.9		8ck	0	W		0	0	Fair	
Dodge City, Kansas	27.30	693.4	29.44	747.8	73	22.8	90	SE	4	1.8		2c	0	Calm		0	0	Fair	
Dubuque, Iowa	29.17	740.9	29.83	757.7	76	24.4	73	W	1	0.4		0	0			0	0	Clear	
Duluth, Minnesota	29.19	741.4	29.84	757.9	66	18.9	100	E	8	3.6			10n		E	2.40	61.0	Heavy rain	
Eagle Pass, Texa	29.10	739.1	29.80	756.9	79	26.1	58	SE	3	1.3		0	0			0	0	Clear	
Eastport, Maine	29.82	757.4	29 88	758.9	75	23.9	56	SW	4	1.8		5c	Haze	NW	Calm	0	0	Fair	
Edinburg, Texas					81	27.2	87	S			1	0	0			0	0	Clear	
El Paso, Texas	26.20	665.5			66	18.9	84	NW	8	3.6		0	0			0.07	1.8	Clear	
Erie, Pennsylvania	29.21	741.9	29.29	744.0	72	22.2	67	Calm	0	0		0	0			0	0	Clear	
Escanaba, Michigan	29.17	740.9	29.78	756.4	76	24.4	73	W	6	2.7		2c	0	W		0	0	Fair	
Florence, Arizona	28.45	722.6	30.05	763.3	77	25.0	49	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.83	706.9			59	15.0	87	NW	1	0.4		5ck	0	SW		0	0	Fair	
Fort Davis, Texas	25.19	639.8	30.15	765.8	68	20.0	74	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.28	743.7	29.77	756.1	85	29.4	57	SE	5	2.2		0	0			Inap.	Inap.	Clear	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	71	21.7	71	E	4	1.8		10k	0	Calm		0	0	Cloudy	
Fort Griffin, Texas	28.55	725.2	29.73	755.1	83	28.3	50	S	14	6.3		0	0			0	0	Clear	
Fort Keogh, Montana	27.33	694.2			63	17.2	67	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.64	702.0	29.46	748.3	75	23.9	64	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.58	725.9	29.61	752.1	77	25.0	69	SE	12	5.4		5ck	0	Calm		0.52	13.2	Fair	
Fort Stevenson, Dakota	27.97	710.4			61	16.1	70	E	4	1.8		4c	4s	S	Calm	0.01	0.3	Cloudy	
Fort Verde, Arizona					65	18.3	44	W			1	5k	0	W		0	0	Fair	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.14	714.7	29.62	752.3	73	22.8	63	S	5	2.2		0	2ks		Calm	0	0	Fair	
Galveston, Texas	29.91	759.7	29.95	760.7	83	28.3	71	S	12	5.4		0	1ks		Calm	0	0	Clear	
Graham, Texas	28.74	730.0	29.71	754.6	83	28.3	56	S	4	1.8		0	0			0	0	Clear	
Grand Haven, Michigan	29.24	742.7	29.84	757.9	78	25.6	73	SW	9	4.0		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.86	733.0	29.73	755.1	79	26.1	62	SW	4	1.8		0	0			0	0	Clear	
Indianapolis, Indiana	29.13	739.9	29.87	758.7	76	24.4	79	SW	1	0.4		5ck	0	W		0	0	Fair	
Indianola, Texas	29.91	759.7	29.93	760.2	84	28.9	68	S	16	7.2		0	0			0	0	Clear	
Jacksboro, Texas	28.71	729.2	29.76	755.9	85	29.4	61	S	5	2.2		0	0			0	0	Clear	
Jacksonville, Florida	29.89	759.2	29.92	760.0	88	31.1	69	SW	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.24	742.7	29.81	757.2	78	25.6	78	SE	2	0.9		0	0			0	0	Clear	
Key West, Florida	30.00	762.0	30.04	763.0	82	27.8	71	NW	4	1.8		2k	0	NW		0	0	Fair	
Kittyhawk, North Carolina	29.89	759.2	29.91	759.7	71	21.7	90	NE	18	8.0			10s		NE	0	0	Cloudy	
Knoxville, Tennessee	28.76	730.5	29.90	759.4	79.5	26.4	70	E	4	1.8		2ck	8ks	W	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.11	739.4	29.80	756.9	75	23.9	81	S	5	2.2		0	0			0	0	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	64	17.8	94	Calm	0	0		5cs	0	Calm		0.04	1.0	Fair	
Laredo, Texas	29.48	748.8	29.81	757.2	79	26.1	54	SE	2	0.9		5k	0	NW		0	0	Fair	
Leavenworth, Kansas	29.00	736.6	29.80	756.9	75	23.9	86	SE	4	1.8			Fog			0.05	1.3	Dense fog	
Little Rock, Arkansas	29.58	751.3	29 91	759.7	82	27.8	63	SW	4	1.8		0	8ks		NW	0	0	Cloudy	
Los Angeles, California	29.66	753.4	29.99	761.7	58.5	14.7	91	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.36	745.7	29.89	759.2	75	23.9	81	NW	3	1.3			10s		Calm	0.03	0.8	Cloudy	
Lynchburg, Virginia	29.29	744.0	29.93	760.2	82	27.8	59	E	3	1.3		8c	0	W		0	0	Fair	
Madison, Wisconsin	28.89	733.8	29.81	757.2	75	23.9	85	SW	3	1.3		0	0			0	0	Clear	
Marquette, Michigan	29.08	738.6	29.73	755.1	75	23.9	72	NW	4	1.8		5c	0	N		Inap.	Inap.	Fair	
Mason, Texas	28.27	718.0	29.93	760.2	80	26.7	59	SW	3	1.3		0	0			0	0	Clear	
Memphis, Tennessee	29.09	751.8	29.92	760.0	80	26.7	74	S	5	2.2		6k	4s	S	S	0	0	Cloudy	
Milwaukee, Wisconsin	29.12	739.6	29.81	757.2	74	23.3	81	SW	3	1.3		0	0			0	0	Clear	
Mobile, Alabama	29.92	760.0	29.96	761.0	82	27.8	71	W	9	4.0		0	5ks		SE	0	0	Fair	
Montgomery, Alabama	29.70	754.4	29.93	760.2	82	27.8	78	W	3	1.3		2k	Haze	NW	Calm	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observed.
Morgantown, West Virginia	28.95	735.3	29.89	759.2	74	23.3	76	Calm	0	0	.....	5k	Fog	NW	Calm	0	0	Foggy	
Mt. Washington, N. H.	28.91	607.3	30.27	768.8	50	10.0	86	NW	15	6.7	.....	2k	0	Calm	.....	0	0	Clear.....	
Nashville, Tennessee	29.39	746.5	29.89	759.2	80	26.7	78	Calm	0	0	.....	0	5ks	.....	SW	Inap.	Inap.	Fair.....	
New Haven, Connecticut	29.84	757.9	29.95	760.7	76	24.4	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	29.90	759.4	29.95	760.7	72	22.2	62	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.....	
New Orleans, Louisiana	29.93	760.2	29.99	761.7	82	27.8	75	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Newport, Rhode Island	29.91	759.7	29.96	761.0	70	21.1	70	NE	2	0.9	.....	0	0	.....	.....	0.16	4.1	Clear.....	
New York, New York	29.80	756.9	29.97	761.2	73	22.8	67	NW	2	0.9	.....	Haze	Haze	Calm	.....	0	0	Hazy.....	
Norfolk, Virginia	29.88	758.9	29.94	760.5	75	23.9	72	NE	10	4.5	.....	5cs	0	NE	.....	0	0	Fair.....	
North Platte, Nebraska	26.98	685.3	29.38	746.2	74	23.3	76	NE	5	2.2	.....	5k	5s	W	W	0	0	Cloudy.....	
Olympia, Washington Ter.	30.01	762.2	30.05	763.8	45.0	7.2	100	SW	2	0.9	.....	.....	Fog	.....	Calm	0.06	1.5	Foggy	
Omaha, Nebraska	28.71	729.2	29.74	755.4	77	25.0	77	SE	4	1.8	.....	0	2s	.....	SE	0	0	Clear.....	
Oswego, New York	29.62	752.3	29.93	760.2	69	20.6	53	SW	4	1.8	.....	8c	0	SW	.....	0	0	Fair	
Pembina, Dakota	28.84	732.5	29.63	752.6	63	17.2	94	Calm	0	0	.....	2k	0	NW	.....	0.43	10.9	Clear.....	
Philadelphia, Pa	29.92	760.0	29.97	761.2	72	22.2	62	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Phœnix, Arizona	28.71	729.2	30.42	772.7	78	25.6	54	NW	1	0.4	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	44	6.7	23	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Ploche, Nevada	.....	.....	.....	.....	61	16.1	8	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.12	739.6	29.89	759.2	68	20.0	90	NE	4	1.8	.....	5c	Fog	W	Calm	0	0	Fair	
Port Huron, Michigan	29.24	742.7	29.87	758.7	70	21.1	80	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.87	758.7	29.92	760.0	72	22.2	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.01	762.2	30.08	764.0	50.5	10.3	93	N	4	1.8	.....	.....	10s	.....	N	Inap	Inap.	Cloudy	
Prescott, Arizona	24.82	630.4	30.18	766.1	57	13.9	41	W	.....	.....	1	5c	0	W	.....	0	0	Fair.....	
Pilot Point, Texas	29.13	739.9	29.93	760.2	84	28.9	83	SE	9	4.0	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	85	29.4	68	W	9	4.0	.....	5k	0	W	.....	0	0	Fair.....	
Red Bluff, California	29.61	752.1	29.96	761.0	67	19.4	64	S	5	2.2	.....	1k	0	W	.....	0.01	0.3	Clear.....	
Rio Grande City, Texas	29.69	754.1	29.90	759.4	78	25.6	78	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.32	744.7	29.91	759.7	67	19.4	74	SW	6	2.7	.....	2c	0	W	.....	0	0	Clear.....	
*Roseburg, Oregon	29.50	749.3	30.08	764.0	43.5	6.4	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California	29.91	759.7	29.99	761.7	58	14.4	88	S	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
St. Louis, Missouri	29.82	744.7	29.87	758.7	75	23.9	86	S	7	3.1	.....	2ck	5s	W	Calm	0.08	2.0	Fair	
St. Marks, Florida	29.94	760.5	29.96	761.0	81	27.2	91	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy.....	
St. Paul, Minnesota	28.95	735.3	29.72	754.9	76	24.4	86	S	5	2.2	.....	5c	0	NW	.....	0	0	Fair.....	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	66	18.9	23	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.22	742.2	29.78	756.4	78	25.6	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Diego, California	29.95	760.7	30.02	762.5	62	16.7	83	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.28	743.7	29.91	759.7	73	22.8	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	70	21.1	80	NE	2	0.9	.....	0	Haze	.....	Calm	0.02	0.5	Clear.....	
San Francisco, California	29.97	761.2	30.04	763.0	56	13.3	87	NW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	60	15.6	49	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Savannah, Georgia	29.78	756.4	29.87	758.7	91	33.3	60	W	7	3.1	.....	5c	Haze	NW	Calm	0	0	Fair	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	82	27.8	75	W	10	4.5	.....	2k	0	SW	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.86	758.4	29.89	759.2	81	27.2	87	NE	12	5.4	.....	.....	10ks	.....	NE	0	0	Cloudy.....	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	29.27	743.4	29.92	760.0	76	24.4	77	E	2	0.9	.....	0	8s	.....	NW	0.09	2.3	Fair.....	
Springfield, Massachusetts	29.82	757.4	29.95	760.7	71	21.7	75	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	29.91	683.5	29.91	759.7	78	25.6	16	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.94	760.5	29.99	761.7	66	18.9	79	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.23	742.4	29.88	758.9	74	23.3	72	S	1	0.4	.....	2ck	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.59	698.5	30.05	763.3	78	25.6	57	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
Umatilla, Oregon	29.73	755.1	30.23	767.8	49.0	9.4	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	28.98	736.1	29.77	756.1	76	24.4	73	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.74	755.4	29.98	761.5	82	27.8	71	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.26	616.2	29.74	755.4	50	10.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.67	753.1	29.93	760.2	64	17.8	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.86	758.4	29.97	761.2	75	23.9	68	NE	2	0.9	.....	5c	0	NW	.....	0	0	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	66	18.9	59	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, N. Carolina	29.81	757.2	29.88	758.9	81	27.2	74	NE	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	46	7.8	62	SW	5	2.2	.....	1c	0	Calm	.....	0.01	0.3	Clear.....	
Wood's Holl, Mass	29.92	760.0	29.95	760.7	70	21.1	66	SE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Yankton, Dakota	28.53	724.6	29.74	755.4	72	22.2	80	S	9	4.0	.....	2ck	0	W	.....	0	0	Fair.....	
Yuma, Arizona	29.69	754.1	29.85	758.2	76	24.4	73	SW	2	0.9	.....	5c	0	Calm	.....	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbr ar.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.22	640.6	.....	.....	66.0	18.3	82	Calm	.....	.....	0	.....	10n	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I	29.90	759.4	29.98	761.5	80	26.7	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.01	762.2	79	26.1	78	SE	.....	.....	2	2c	0	.....	.....	0.020	0.51	Clear	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 6.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡			85	29.4	87	W	6	2.7			2		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.86‡	758.4‡			71	21.7	75	NE			2		4k; hz		W	Slight	Slight			Fair	
Adams, N. 27° 40′, W. 115° 10′	30.02‡	762.5‡			66	18.9	100	WNW			3		0					Smooth		Clear	
Alliance, Antwerp, Belgium	29.61‡	752.1‡			66	18.9	68	S			3		10		S					Cloudy	
Ashuelot, Yokohama, Japan	29.84‡	757.9‡			73	22.8	68	NE			4		2					Mod'ate	NE	Fair	
Colorado, New York, N. Y.	29.93‡	760.2‡			72	22.2	67	Calm	0	0			0			0	0			Smoky	
Constellation, Bar Harbor, Mt. Desert, Me,	29.90‡	759.4‡			66.8	19.3	64	Calm			0		2		Calm	0	0			Clear	
Constitution, League Isl. Navy Yard, Pa.	29.95‡	760.7‡			72	22.2	76	ENE			1		1		Calm					Clear	
Enterprise, N. 56° 59′, E. 18° 52′	29.89‡	759.2‡			63	17.2	89	SW			3–4		3		SW					Clear	
Franklin, Norfolk, Va.	29.92‡	760.0‡			76	24.4	73	NNE	9.6	4.3			8		NW	0	0			Fair	
Hartford, Montevideo, Uruguay	30.00‡	762.0‡			54	12.2	74	NNW	3	1.3			8		NW	0	0			Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	30.01‡	762.2‡			65	18.3	40	SW	6	2.7			0?		SW					Cloudy	
Kearsarge, N. 41° 40′ W. 52° 30′	29.83‡	757.7‡			70	21.1	90	WSW			2		10					Smooth		Misty	
Michigan, Erie, Pa.	29.84‡	757.9‡			68	20.0	84	Calm			0		0							Clear	
Monocacy, Shanghai, China	29.77‡	756.1‡			84	28.9	96	SE			2		0		SE?					Clear	
Monongahela, Yokohama, Japan	29.86‡	758.4‡			73	22.8	85	NNE			2		k			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.84‡	757.9‡			88	31.1	69	W	8	3.6			2		Calm	0	0			Clear	
Onward, Callao, Peru	30.23‡	767.8‡			63	17.2	83	SE			3		0					Long	W	Clear	
Palos, Shanghai, China	29.76‡	755.9‡			83	28.3	87	SSE			2		0							Clear	
Passaic, Washington, D. C.					80	26.7	62	NE			1		2							Clear	
Pensacola, Callao, Peru	30.03‡	762.7‡			63	17.2	89	SE	3	1.3			2			0	0	Smooth		Fair	
Portsmouth, Boston, Mass.	29.93‡	760.2‡			62	16.7	77	Calm			0		2		N	0	0	Smooth		Clear	
Powhatan, Portland, Me.	29.91‡	759.7‡			69	20.6	75	WSW			1		0			0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.99‡	761.7‡			75	23.9	60	NE			5		5		NE					Fair	
Ranger, Hong-Kong, China					81	27.2	87	Calm			0		5		Calm			Smooth	Calm	Fair	
Richmond, Yokohama, Japan	29.88‡	758.9‡			74	23.3	72	NE			1–2		0			0	0	Smooth	NE	Clear	
Rio Bravo, Brownsville, Texas	29.89‡	759.2‡			79	26.1	91	SE			1		0			0	0			Clear	
Santee, Annapolis, Md.	29.98‡	761.5‡			74	23.3	72	NE			2		5		W	0	0			Fair	
Saratoga, New York City, N. Y.	29.97‡	761.2‡			72	22.2	95	SSW			2		2		SW	0	0			D. clouds	
St. Louis, League Island, Pa.	29.96‡	761.0‡			73	22.8	67	NE	7	3.1			0			0	0			Clear	
Trenton, Antwerp, Belgium	29.63‡	752.6‡			65	18.3	78	S			0–1		10		WSW	0.01	0.3	Smooth		Rainy	
Tuscarora, Mare Island Navy Yard, Cal	30.00‡	762.0‡			60	15.6	94	SSW			3		10		Calm	0	0	Smooth		Overcast	
Vandalia, New London, Conn.	29.96‡	761.0‡			67	19.4	84	NW			1		0			0	0	Smooth		Clear	
Wabash, Boston, Mass.					75	23.9	60	NW	2	0.9			0			0	0			Hazy	
Wyoming, Fiume, Austria	29.98‡	761.5‡			73	22.8	54	SSE			2		5		S			Smooth	S	Fair	
Wachusett, Ellis' Cliffs, two days above New Orleans, La.	29.95‡	760.7‡			79	26.1	91	W			2		2		Calm					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 11° 08', W. 87° 10'...†		29.96‡	761.0‡	82	27.8	87	NE			4		6		N	0.13 in. or 3.3 mm	Mod'ate	NE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur..
S. S. Dakota, Capt. H. G. Morse, N. 47° 24', W. 124° 50'...†		30.00‡	762.0‡	59	15.0		S			1		4?			0	Mod'ate	W	Overcast	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 25° 29', W. 150° 15'		29.98‡	761.5‡				ENE			1		0				Light	NW	Pleasant	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson, Yokahama, Japan...†		29.89‡	759.2‡	76	24.4		SW			2		ks		SW	Slight	Smooth		Raining	J .A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 27° 15', E. 123° 08'		29.71‡	754.6‡	81	27.2	87	SW			2		2		NE		4	SW	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peifer, N. 46° 08', W. 44° 46'		29.96‡	761.0‡	58.0	14.4	94	Calm			0		10			10h'rs	Smooth		Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.75‡	755.6‡				SSW			2		5		S				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.43‡	747.5‡	65	18.3	40	N			3		10		N	Light			Cloudy	Captain R. W. Sargen; Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 49° 30′, W. 18° 28′		29.91‡	759.7‡				N	8	3.6			2		NNW		Mod'ate	W	Clear	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 13′, W. 82° 44′		30.08‡	764.0‡	84	28.9	75	Calm	0	0			2k		N	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 17° 40′, W. 63° 50′		30.09‡	764.3‡				E					2			0	Tranquil		Fine	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

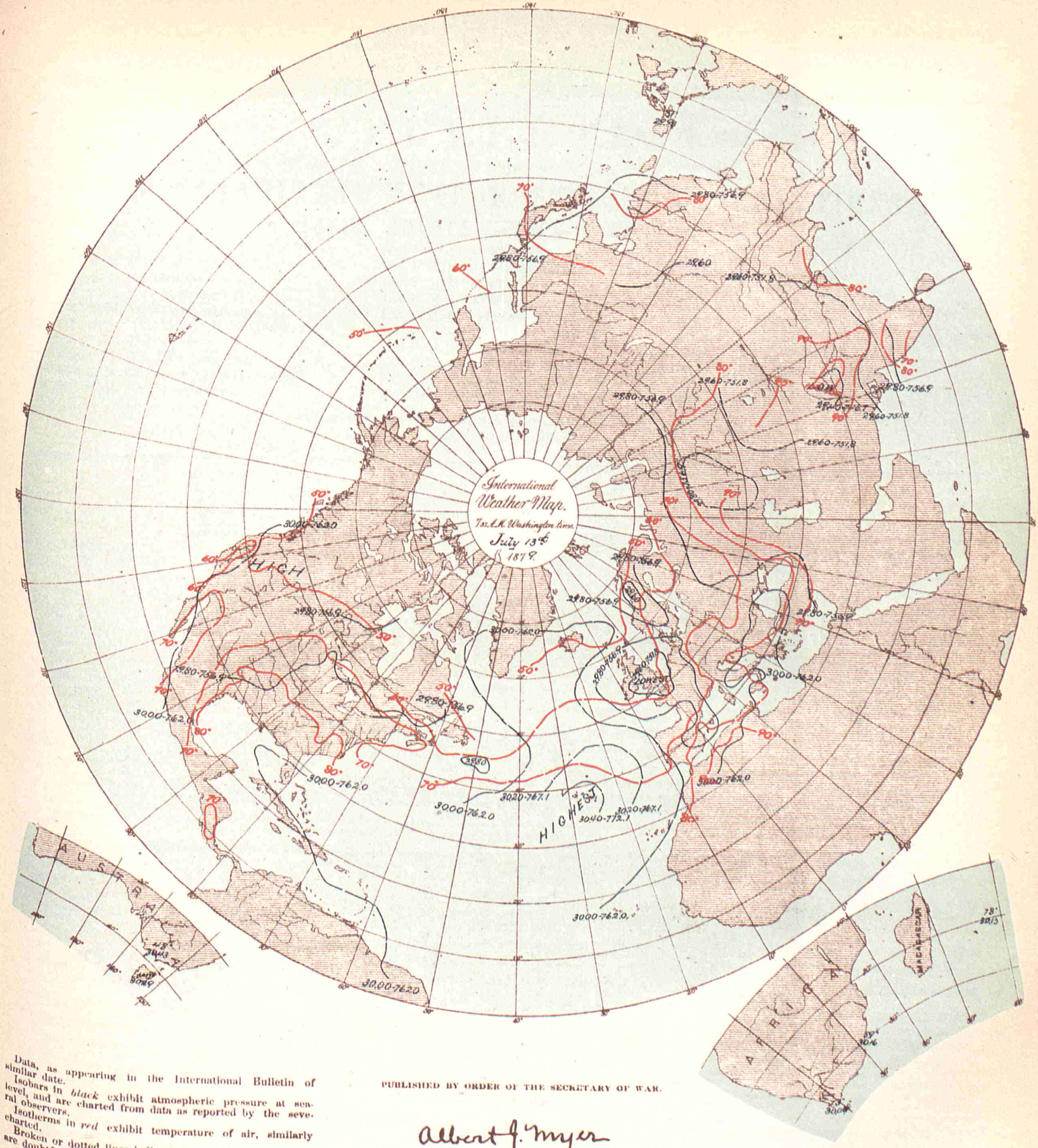
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 226 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.05	763.3	69.1	20.6	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.98	761.4	86.3	30.3	45	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.91	759.8	79.5	26.4	78	N	.....	.....	6	.....	10	.....	.....	0	0	Covered	Touriliere.
La Calle	.....	.....	29.89	759.3	85.3	29.6	79	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.03	762.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.97	761.2	93.0	34.4	28	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Geriville	.....	.....	29.95	760.6	93.7	34.3	24	W	.....	.....	7	.....	0	.....	.....	0	0	Clear	Watrin.
Laghouat	.....	.....	29.98	761.6	82.6	28.1	62	N	.....	.....	3	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Biskra	.....	.....	29.95	760.7	98.2	36.8	24	NW	.....	.....	6	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	29.91	759.6	84.9	29.4	17	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.23	742.4	29.75	755.6	79.2	26.2	36	SW	.....	.....	4	.....	4	.....	.....	0.020	0.5	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.6	29.73	755.2	73.0	22.8	52	SSW	.....	.....	3	.....	10	.....	.....	0.268	6.8	.....	Dr. Wierzbiski.
Eperies	28.99	736.3	29.85	758.1	62.6	17.0	83	Calm	.....	.....	0	.....	10ns	.....	.....	0.014	0.35	.....	Julius Mikolik.
Gratz	28.52	724.5	29.72	754.8	73.2	22.9	64	SW	.....	.....	3	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28 50	724.0	29.85	758.1	79.5	26.4	60	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.45	722.5	29.76	755.9	58.6	14.8	82	WSW	.....	.....	2	.....	10	.....	.....	6	0	.....	Prof. C. Wagner.
Lemberg	28.85	732.9	29.80	756.9	71.2	21.8	68	SE	.....	.....	3	.....	10	.....	.....	0.240	6.1	.....	Dr. T Stanecki.
Pola	29.71	754.6	29.82	757.3	80.2	26 8	45	SW	.....	.....	1	.....	5	.....	.....	0 118	3.0	Thunder-storm.	I.R.HydrographicOffice.
Szathmar	29.43	747.6	29.87	758.8	77.9	25.5	47	SE	.....	.....	3	.....	5	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.47	748.5	29.73	755.2	82.0	27.8	52	SW	.....	.....	1	.....	3	.....	.....	0.031	0.80	.....	Karl Stancel.
Trieste	29.72	755.0	29.83	757.6	78.8	26.0	62	W	.....	.....	1	.....	9	.....	.....	0.426	10.8	Thunder-storm.	P. Busin.
Vienna	29.04	737.7	29.79	756.7	69.8	21.0	65	WNW	.....	.....	4	.....	7	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.68	753.9	29.78	756.4	51.5	10.8	.....	NE	22	9.8	.....	.....	10	.....	.....	0.185	4.70	Raining	W. Boswell.
Ardrossan	29.69	754.1	29.70	754.4	57	13.9	.....	NNE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Wm.McNeil &G.Carri
Armagh, Observatory	29.52	749.8	29.74	755.4	57.9	14.4	.....	NNE	11	4.9	.....	.....	10	.....	.....	.....	.....	Drizzling.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.57	751.1	60.2	15.7	.....	NW	10	4.5	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.53	750.0	59.5	15.3	.....	NNE	6	2.7	.....	.....	8	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	29.17	740.9	29.56	750.8	59.7	15.4	.....	N	.....	.....	1	.....	3	.....	.....	0.56	14.2	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.98	761.5	83	28.3	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H
Cambridge, Observatory	29.42	747.3	29.51	749.5	59.0	15.0	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder...	H. Todd.
Cardington	.....	.....	29.51	749.5	56.4	13.6	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John McLaren.
Chatham, School M. E.	29.46	748.0	29.58	751.3	60.4	15.8	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper. R.
Donaghadee	29.67	753.6	29.71	754.6	53	11.7	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.58	751.3	29.60	751.8	60	15.6	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Falmouth, Observatory	29.49	749.0	29.72	754.9	54.7	12.6	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Drizzling.....	The Staff.
Fort Napier (Natal)	27.71	703.8	29.99	761.7	66.1	18.9	.....	W	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	76	24.4	.....	Calm	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.73	755.1	62	16.7	.....	NNE	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.96	761.0	78.6	25.9	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A.
Glasgow, Observatory	29.60	749.3	29.71	754.6	54.7	12.6	.....	NNE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	D. G. Maclean.
Great Yarmouth	29.54	750.3	29.55	750.6	60	15.6	.....	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.40	746.7	29.57	751.1	57.6	14.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Ai
Guernsey	29.47	748.5	29.69	754.1	57	13.9	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R
Helston	29.67	753.6	29.79	756.7	59	15.0	.....	NW	.....	.....	2	.....	10m	.....	.....	0.14	3.6	Raining.....	M. P. Moyle.
Holyhead	29.63	752.6	29.65	753.1	55	12.8	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.46	748.3	29.74	755.4	56.5	13.6	.....	W	.....	.....	5	.....	10	.....	.....	Blank	Blank	Misty.....	J. Fisher.
Kew, Observatory	29.54	750.3	29.58	751.3	58.0	14.4	.....	WSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.27	743.4	29.51	749.5	60.0	15.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G
Malta, Mediterranean	29.90	759.4	29.97	761.2	81	27.2	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.74	755.4	29.83	757.7	55	12.8	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Covered.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.04	763.0	85.5	29.7	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.35	745.5	29.54	750.3	61.4	16.3	.....	N	.....	.....	3	.....	10ks;c	ks;d]	NNE	0.569	14.45	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.02	737.1	29.53	750.0	55.5	13.1	.....	Calm	.....	.....	0	.....	9	.....	.....	Blank	Blank	Threatening	Rev. Stephen J. Whi
Oxford, Radcliffe Obs'y	.....	.....	29.56	750.8	59	15.0	.....	WSW	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.59	751.6	29.67	753.6	55.2	12.9	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Prince Town	28.22	716.8	29.71	754.6	48.0	8.9	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	W. H. Tooker.
*Roche's Point	29.67	753.9	29.78	756.4	59	15.0	.....	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.48	748.8	29.64	752.8	57	13.9	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.90	759.4	52.8	11.6	.....	NE	24	10.7	.....	.....	1	.....	.....	.....	.....	Blue sky.....	Rev C.Clouston,L.L
Scutari, Cemetery (Turkey)	29.83	757.7	29.89	759.2	55.6	29.8	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	9.28	743.7	29.55	750.6	60.1	15.6	.....	NE	.....	.....	1	.....	8	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.59	751.6	29.62	752.3	54.7	12.6	87	W	.....	.....	2	.....	10	.....	.....	0.080	2.03	Overcast.....	Francis Redford, A.
Stonyhurst, Observatory	.....	.....	29.56	750.8	59.0	15.0	.....	NNE	3	1.3	.....	.....	9	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stratfield, Turgiss	29.37	746.0	29.58	751.3	56.3	13.5	.....	SW	.....	.....	2–3	.....	9	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.N
Truro, Royal Institution	29.76	754.4	29.72	754.9	57	13.9	.....	NW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.82	757.4	29.84	757.9	57.8	14.3	.....	NNW	20	8.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.79	756.7	29.83	757.7	65.1	18.4	94	NNW	8.6	3.8	.....	10	8	.....	.....	0	0	Cloudy	The Staff, for D. Gi
Hobart Town (Tasmania)	.....	.....	29.72	754.9	32	0.0	74	NW	.....	.....	3	.....	10m	.....	.....	0.12	3.0	Cloudy.....	FrancisAbbott,F.R.
Leith, Restalrig Park	.....	.....	29.69	754.1	50.3	10.2	.....	NE	.....	.....	6	.....	10m	.....	.....	0.70	17.8	Overcast	Andrew Gibb
Mauritius, Observatory	30.04	763.0	30.23	767.8	71.6	22.0	67	ESE	17.5	7.8	.....	0	2	.....	S	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.98	761.5	30.07	763.8	52.2	11.2	69	N	33	14.8	.....	.....	8	.....	.....	0.04	1.0	Showery.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.88	758.9	74	12.2	.....	NE	.....	.....	6	5	3	NE	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.91	759.7	49	9.4	.....	N	.....	.....	4	5	5	NE	.....	0	C	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; t weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezi but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince To is 1,400 feet or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30′. E. 28° 50′	.....	.....	29.88‡	758.9‡	79	26.1	.....	NE	.....	.....	5	.....	2	.....	.....	.....	.....	Squally	Capt. W. J. L. Whal
Algeria, N. 45° 50′, W. 40° 20′	.....	.....	29.94	760.5	59	15.0	.....	WNW	.....	.....	6	.....	7	.....	.....	3	W	D. clouds.....	Capt. Wm. Watson
Agnes Wilson, N. 40° 00′, W. 55° 10′	.....	.....	29.99	761.7	74	23.3	.....	SSW	.....	.....	2	.....	10	.....	.....	3	SW;SE	Raining.....	Capt. H. W. Dyke.
Astarte, N. 48° 10′, W. 28° 50′ .... *	.....	.....	29.76‡	755.6‡	62.2	16.8	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	Capt. Parson.
Barque Commewyne, N. 9° 35′, W. 54° 45′	.....	.....	29.99	761.7	83	28.3	.....	ENE	.....	.....	4	.....	4	.....	.....	.....	.....	Showery.. ...	Capt. A. Buchan.
Theophane, S. 26° 55′, E. 0° 05′	.....	.....	29.87‡	758.7‡	64.1	17.8	.....	WSW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorn
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Be ... in strength but not as to amount; the height of sea-disturbance by the scale 0 to 9; weat ... term

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
San José	26.22	666.0	29.94	760.5	67.6	19.8	88	NE	.....	.....	1	8cs	.....	.....	.....	0.3	8.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	752.3	29.67	753.5	62.8	17.1	82	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Fanöe	29.63	752.6	29.65	753.1	59.7	15.4	87	W	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Godthaab (Greenland)	30.11	764.9	30.16	766.0	48.6	9.2	86	NE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	30.04	763.0	30.08	764.1	48.2	9.0	80	SE	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.54	750.3	29.65	753.1	58.5	14.7	97	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France. Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.24	742.6	29.79	756.6	58.6	14.8	95	SW	.....	.....	1	.....	8	.....	SW	0.386	9.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.58	751.4	29.69	754.0	59.7	15.4	85	SW	.....	.....	1	.....	10	.....	.....	0.299	7.6	Covered	Bouvallet, Director.
Arras, Engin'r School	29.44	747.7	29.69	754.1	58.6	14.8	78	W	.....	.....	5	.....	.....	.....	W	0.295	7.5	.....	Klein, Commandant.
Avignon, Normal School	29.84	758.0	29.92	760.0	72.9	22.7	54	NW	.....	.....	1	.....	.....	.....	NNW	1.10	28.	.....	Giraud, Director.
Par-sur-Seine	29.25	743.0	29.80	757.0	57.9	14.4	80	WSW	.....	.....	1	.....	10	.....	W	0.386	9.8	Covered	C. Saillard, Director.
Beauvais, Normal School	29.46	748.1	29.71	754.6	68.4	20.2	62	WSW	.....	.....	3	.....	8	.....	WSW	0.010	0.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.98	736.2	29.56	758.4	63.5	17.5	68	S	.....	.....	3	.....	2	.....	S	0.350	8.9	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.07	738.3	29.99	761.7	61.5	16.4	78	S	.....	.....	1	.....	n	NE	NE	1.087	27.6	.....	Mariot, Director.
Bourges, Normal School	29.21	742.0	29.75	755.6	63.0	17.2	91	SW	.....	.....	1	.....	2ck	SW	SW	0.047	1.2	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.52	749.9	29.77	756.1	63.7	17.6	68	W	.....	.....	2	.....	8	.....	W	0.108	2.75	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.53	750.1	29.93	760.2	74.1	23.4	50	W	.....	.....	2	.....	2	.....	W	0.579	14.7	Slightly cl'dy	September, Dir.
Caen, Normal School	29.66	753.4	29.69	754.2	62.6	17	90	WNW	.....	.....	1	.....	.....	.....	WNW	0.165	4.2	.....	Lair, Director.
Chartres, Normal School	29.13	740.0	29.69	754.1	61.5	16.4	87	NE	.....	.....	1	.....	7	.....	E	0.336	8.5	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.2	29.83	757.7	63.7	17.6	63	SW	.....	.....	3	.....	8	WSW	WSW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.52	724.4	29.84	757.8	66.0	18.9	64	W	.....	.....	1	.....	8	.....	W	0.098	2.5	Showery	Alluard, Director.
Commercy, Normal School	28.93	734.8	29.77	756.2	61.2	16.2	67	SW	.....	.....	3	.....	5kn	SW	SW	0.303	7.7	Cloudy	Or. Coulet, Director.
Commune de Gréasque*	28.82	732.1	29.97	761.1	68.2	20.1	43	NW	.....	.....	3	.....	5	.....	NW	0.709	18.0	.....	L. Kina, Director.
Grenoble, Normal School	29.16	740.7	29.91	759.8	64.4	18.0	59	WNW	.....	.....	1	.....	5k	.....	SW	1.18	30.	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.65	753.2	29.87	758.6	62.6	17.1	80	SW	.....	.....	3	.....	8	.....	W	0.150	3.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.47	748.6	29.78	756.3	62.6	17	72	NW	.....	.....	5	.....	5	.....	W	0.378	9.6	Cloudy	Poirrier, Director.
Louis-Le-Saulnier, N. School	29.09	736.6	29.90	759.5	63.9	17.7	68	W	.....	.....	3	.....	2k	.....	W	0.614	15.60	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.73	755.2	29.84	757.8	60.1	15.6	81	W	.....	.....	3	.....	.....	SW	W	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.63	752.7	29.90	759.4	72.0	22.2	49	NW	.....	.....	2-3	.....	1	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.72	729.4	29.74	755.4	61.7	16.5	72	SSW	.....	.....	1	.....	10	.....	SSW	0.20	5.	Covered	Barbier, Director.
Mont-Louis	24.82	630.5	30.14	765.5	57.6	14.2	67	ESE	24.2	10.8	.....	.....	3	.....	N	0.157	4.0	.....	M. Cave.
Nîmes, Normal School	29.75	755.6	29.95	760.6	71.6	22	60	N	.....	.....	1	.....	2	.....	N	2.76	70.	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.46	748.3	63.3	17.4	74	WSW	.....	.....	3	.....	9	.....	WSW	0.083	2.1	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.49	571.2	.....	.....	45.0	7.2	.....	W	.....	.....	1	.....	10	.....	.....	0.075	1.9	Threatening	Gen'l de Nansouty.
Perpignan	29.85	758.1	29.95	760.7	71.1	21.7	44	N	9.4	4.2	.....	.....	8	SW	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.07	636.7	.....	.....	42.1	5.6	100	W	.....	.....	5	.....	.....	.....	.....	0.433	11.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.84	757.8	29.87	758.6	66.2	19.1	64	W	.....	.....	3	.....	5	W	W	0.16	4.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.65	753.0	29.73	755.2	57.2	14.0	91	SSW	.....	.....	1	.....	10	.....	W	0.083	2.1	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.72	754.8	29.75	755.6	59.0	15.5	83	WNW	.....	.....	2	.....	8	WSW	WSW	0.551	14.00	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.58	571.2	29.74	755.4	63.3	17.4	76	WSW	.....	.....	2	.....	10	.....	WSW	0.594	15.1	.....	E. Renou, Director.
Tarbes, Normal School	28.96	735.5	30.00	761.9	73.8	23.2	73	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.28	743.7	30.00	762.0	67.3	19.6	68	WNW	.....	.....	3	.....	5	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.60	751.8	29.80	756.8	65.7	18.7	62	W	.....	.....	3	.....	7	.....	W	0.142	3.6	.....	Cousin-Marquet.
Versailles, Observatory	29.25	743.0	29.74	755.4	61.9	16.6	70	W	.....	.....	3	.....	.....	.....	.....	0.134	3.41	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.19	741.3	29.88	759.0	63.0	17.2	80	WNW	.....	.....	1	.....	5	.....	N	0.693	17.6	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.79	756.6	29.82	757.3	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.27	743.5	29.87	758.7	71.2	21.8	44	NW	.....	.....	1	.....	5	.....	W	0.953	24.2	Cloudy	Ch. André, Director.
Nice	.....	.....	29.78	756.3	76.3	24.6	60	SSW	.....	.....	7	.....	0	.....	.....	0.165	4.2	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.62	752.3	29.65	753.0	83.5	28.6	89	SE	9.8	4.4	.....	.....	2	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,812 ft., Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,208.5 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bamberg	28.93	734.7	29.76	755.9	67.8	19.9	62	SW			2		8	SW		0.288	7.2	Raining	Prof. Dr. Hoh.
Berlin	29.53	750.1	29.70	754.3	67.1	19.5	72	SW			1		9			0.106	2.7	Raining	Prof. Dr. Arndt.
Breslau	29.16	740.7	29.69	754.0	75.7	24.3	50	SSW			4		9					Raining	Royal University Ob'y.
Carlsruhe	29.37	746.9	29.78	756.4	62.6	17.0	79	W			2		10	SW		0.083	2.1	Thunder-storm	Albert Senz.
Cassel	29.13	739.8	29.73	755.1	68.4	20.2	62	WSW			4		7	S		0.090	2.28		Dr. H. Möhl.
Crefeld	29.51	749.6	29.67	753.7	71.2	21.8	53	SW			4		7k			0.08	2.		Director Lose.
Emden			29.66	753.4	68.0	20.0	64	SW			1		5			0.035	0.9		Prof. Dr. Prestel.
Frankfort on the Main	29.41	746.9	29.76	756.0	68.7	20.4		SW			1		7			0.102	2.6		Physical Society.
Freienwalde on the Oder	29.63	752.7	29.67	753.7	64.6	18.1	88	SW			2		10ks	SW		0.047	1.2		Dr. Assmann.
Friedrichshafen	28.47	723.1	29.89	759.1	58.3	14.6	81	SW			3		10	SW		0.201	5.1		M. Wilhelm.
Hamburg	29.61	752.2	29.68	753.9	65.5	18.6	71	WNW			1		8k			0.362	9.2	Fair	Captain F. Hegemann.
Kiel	29.65	753.1	29.67	753.5	63.1	17.3	77	W			2		10			0.284	7.23		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29 74	755.4	29.82	757.4	72.5	22.5	57	SE			2		6			0.004	0.1		Prof. E. Luther.
Köslin			29.72	755.0	72.5	22.5		S			6		3			0.008	0.2		H. Müller.
Leipsic Observatory	29.33	744.9	29.73	755.2	67.3	19.6	65	WSW			2		9	WSW		0.071	1.8		Prof. Bruhns, Privy Counselor
Memel	29.82	757.5	29.87	758.7	72.7	22.6	42	SSE			1		10s						Skalweit.
Munich (München)	28.04	712.1	29.89	759.2	54.7	12.6	93	SW			2		10			0.355	9.1		Dr. C. Lang.
Neufahrwasser	29.74	755.5	29.76	755.9	70.2	21.2	62	SE			2		10			0	0		A. Lothes.
Posen	29.43	747.5	29.71	754.5	76.6	24.8	49	S			1		9			0.051	1.3		Dr. Magener.
Strassburg (in Alsace)	29.27	743.5	29.81	757.1	66.2	19.0	64	W			4		7	W		0.322	8.21	Showery	Imp. University Observatory
Stuttgart	28.83	732.3	29.74	755.4	66.9	19.4	71	W			5		10			0.083	2.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.31	719.0	29.78	756.3	61.9	16.6	74	SSW	2	1			9ck	NW		0.186	4.7	Hazy	T. Hopfner.
Wustrow	29.63	752.6	29.65	753.2	61.9	16.6	93	SE			2		10			0.315	8.0		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,376.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 6, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK- SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.8	29.91	759.8	88.0	31.1		NE			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.53	750.1	29.58	751.4	83.1	28.4	70	WNW				2	SW			0	0	D. clouds	
Dersa	29.16	740.7	29.63	752.5	86.6	30.3	59	SW	24.8	11.1		7		WSW		0	0	D. clouds	
Bombay	29.74	755.4	29.78	756.4	82.9	28.3	62	W	15.0	6.7		9	W	WSW		0.24	6.1	D. clouds	
Poona	27.95	710.0	29.83	757.7	71.7	22.1	92	W				10		W		0.08	2.0	Drizzling	
Lahore	28.65	727.7	29.35	745.5	103.1	39.5	31	SW	2.6	1.2		0				0	0	Blue sky	
Belgaum	27.28	692.9	29.85	758.1	69.7	20.9	90	W	8.0	3.6		10	W	W		0.17	4.3	D. clouds	
Roorkee	28.54	724.9	29.42	747.2	85.8	29.9	61	SE	3.3	1.5		6				0	0		
Agra	28.91	734.3	29.46	748.2	92.7	33.7	49	SW				2		SW		0	0		
Nagpur	28.60	726.4	29.62	752.2	88.7	31.5	46	W	5.0	2.2		8		E		0	0	D. clouds	
Lucknow	29.13	739.8	29.60	749.2	85.2	29.6	83	Calm	4.0	1.8		10				2.49	63.2	Overcast	
Allahabad	29.22	742.2	29.53	750.1	84.4	29.1	51	W	2.3	1.0		10				0.02	0.5	Overcast	
Patna	29.37	745.9	29.55	750.5	81.9	27.7	91	Calm	0.1	0.04		10				1.05	26.7	Overcast	
Hazaribagh	27.59	700.8	29.59	751.7	75.8	24.3	87	SSW	7.0	3.1		10				0.26	6.6	Raining	
Cuttack	29.56	750.8	29.64	752.9	80.8	27.1	83	SSW	2.0	0.9		9				0.36	9.1	Drizzling	
Calcutta (Alipore)	29.60	751.7	29.62	752.3	81.9	27.7	79	SSW	5.0	2.2		10		SSW		0	0	Overcast	
Goalpara	29.18	741.2	29.67	751.0	78.7	25.9	95	SE	5.0	2.2		10				0.53	13.5	Overcast	
Chittagong	29.63	752.6	29.73	755.0	77.6	25.3	92	SSE	9.6	4.3		10				0.02	0.5	Threatening	
Sibsagar	29.25	743.0	29.58	751.4	83.3	28.5	82	SE	1.5	0.7		10	W	W		0.40	10.2	D. clouds	
Jubbulpore	28.26	717.7	29.60	751.9	83.3	28.5	63	W	4.7	2.1		10	E			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,382 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.39	746.6	29.79	756.7	72.5	22.5	61	SW	5.6	2.5	.....	.....	10	.....	.....	0.165	4.2	.....	Prof. Giovanni Clodig.
Milan	29.29	744.0	29.79	756.7	72.7	22.6	56	SW	.....	.....	2	.....	8	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.66	753.4	29.77	756.1	74.7	23.7	57	NW	2.5	1.1	.....	.....	5	SW	.....	0.055	1.4	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.90	734.0	29.77	756 2	69.1	20.6	57	NNW	1.8	0.8	.....	.....	4	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.65	753.0	29.88	757.7	71.6	22.1	60	SE	12.5	5.6	.....	.....	2	S	.....	0.035	0.9	.....	Prof. G. M. Garibaldi.
Mondovi	27.92	709.1	29.76	756.0	65.5	18.6	68	WNW	.....	.....	4	.....	2	SE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.78	755.2	29.78	756.4	82.4	28.0	44	S	15.0	6.7	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.59	751.6	29.84	758.0	75.2	24.0	78	NW	.....	.....	4	.....	10	SW	.....	0.118	3.0	.....	Cav. F. Meucci.
Leghorn	29.77	756.1	29.85	758 2	71.2	21.8	56	W	8.1	3.6	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.72	754.8	29.89	759.1	81.1	27.3	47	S	18.6	8.3	.....	.....	3	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.69	754.2	29.94	760.5	87.4	30.8	24	SSE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.06	738.0	29.89	759.3	89.2	31.8	64	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.62	752.3	29.81	757.1	85.5	29.7	52	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.4	29.95	760.7	80.8	27.1	42	E	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.8	29.95	760.6	84.0	28.9	47	S	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.4	29.98	761.5	80.2	26.8	45	ESE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. [illegible] Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 558 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.74	755.4	29.76	755.9	70.9	21.6	90	ESE	2.7	1.2	.....	.....	2s	.....	.....	0.015	0.38	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.56	750.8	29.75	755.6	71.9	22.2	98	SSE	0.9	0.4	.....	.....	10s	.....	.....	2.740	69.59	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.80	756.9	29.86	758.4	72.3	22.4	86	SSE	2.4	1.1	.....	.....	10s	.....	.....	0.005	0.13	Cloudy	The Staff.
Wakayama	29.72	754.9	29.77	756.1	70.6	21.4	89	SW	0.1	0.04	.....	.....	10s;n	.....	.....	0.070	1.78	Raining	.....

NOTE.—The data are published as given. The rain-fall as measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.08	637.1	30.10	764.6	67.2	14.0	75	SW	.....	.....	1	.....	9	.....	NW	0.62	15.6	Very cloudy	Prof. L. Peres.
Leon	24.44	620.8	30.11	764.8	60.4	15.8	83	NW	.....	.....	1	2c	0	NE	.....	0.12	3.0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.2	30.09	764.3	64.9	12.7	75	Calm	0	0	.....	3c	0	NE	.....	0 06	1.4	Clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.8	16.0	83	Calm	.....	.....	0	1c	0	.....	.....	0.04	1.0	Fine	M. V. de Leon, M. E
Tlacotalpam	29.90	759.4	29.91	759.7	78.8	26.0	85	SW	.....	.....	1	2	5	S	NE	0	0	Cloudy	Prof. M. M. Chásaro.
San Luis Potosi	24.22	615.1	30.04	762.9	68.9	20.5	70	E	.....	.....	2	4	1	W	E	0	0	½ cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	22.58	573.6	30.11	764.9	61.5	16 4	75	Calm	.....	.....	0	0	0	.....	.....	.....	.....	.....	Prof. J. Rossell.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	62.9	11.6	83	Calm	0	0	.....	.....	10k	.....	SW	0.58	14.7	Fine	J. C. Castrillon.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Covered	Prof. P. Spina
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	29.70	754.4	29.99	761.7	74.3	23.5	74	W	.....	.....	3	9	0	W	.....	0.45	11.5	Raining	Antonio Guerra y Guerra.
																			F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.65	753.0	29.65	753.0	59 4	15.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0.102	2.6	.....	.....
Groningen	29.61	752.0	29.66	753.4	64.4	18.0	.....	SW	.....	.....	1	.....	.....	.....	.....	0.224	5.7	.....	.....
Helder	29 64	752.8	29.64	752.8	61.7	16.5	.....	SSW	.....	.....	3	.....	.....	.....	.....	0.012	0.3	.....	.....
Hellevoetsluis	29.63	752.5	29.63	752.5	66.9	19.4	68	S	.....	.....	3	.....	.....	.....	.....	0 252	6.4	.....	.....
Utrecht	29.62	752.3	29.67	753.5	63.7	17.6	75	SSW	.....	.....	2	.....	8	.....	.....	0.043	1.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.68	753.8	29.73	755.2	65.5	18.6	57	NNW	11.6	5.2	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.80	756.8	29.84	757.8	51.8	11.0	63	NNW	18	8	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.60	751.9	29.74	755.5	68.0	20.0	48	SW	0	0	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.82	757.5	29.87	758.6	47.7	8.7	72	NNE	9	4	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 5h., p. m., instead of 1h. 4 m. in. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.7	30.33	770.4	75.2	24.0	74	W	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.7	30.00	761.9	78.3	25.7	27	NW	11.9	5.3	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	763.0	30.13	765.2	73.8	23.2	71	SW	6.3	2.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.8	30.11	764.6	67.8	19.9	51	N	16.1	7.2	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.0	30.54	770.7	77.4	25.2	62	NNE	9.4	4.2	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Paul de Loando	.....	.....	30.07	763.6	73.8	23.2	.....	Calm	.....	.....	0	.....	10	.....	.....	0	.....	Overcast	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.4	65.8	18.8	.....	WSW	.....	.....	3	.....	2	.....	WSW	1	wsw	D. clouds	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island. Sá da Bandeira	.....	.....	29.95	760.7	77.4	25.2	.....	NNE	.....	.....	2	.....	10	.....	NE	.....	.....	Overcast	A. A. A. Loureiro. F. Teixeira da Silva, Com'd's.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.94	760.5	83.3	28.5	.....	SW	.....	.....	8	.....	8	.....	SW	2	SW	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.37	746.0	29.78	756.3	72.0	22.2	50	SSE	16	7	.....	.....	10ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.51	749.6	29.92	759.9	70.5	21.4	46	SE	4	2	.....	.....	5	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.67	753.6	29.90	759.5	67.5	19.7	64	NW	4	2	.....	.....	5k	.....	.....	.....	.....	Prof. Dr. Wellrauch.
St. Petersburg	29.85	758.2	29.87	758.6	64.6	18.1	70	NW	13	6	.....	.....	4ks	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.32	744.8	29.94	760.4	68.9	20.5	49	NW	4	2	.....	.....	4k;cks	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.96	761.0	30.03	762.8	77.4	25.2	42	SSW	4	2	.....	.....	5ck	.....	.....	.....	.....	Kurdukof.
Kertch	30.03	762.7	30.05	763.2	74.5	23.6	57	NW	2	1	.....	.....	1	.....	.....	.....	.....	Lagorio.
Moscow	29.15	740.5	29.69	754.1	56.3	13.5	88	N	11	5	.....	.....	10s	.....	.....	.....	Light rain	Meteorological Obs.
Lugan	29.65	753.0	29.85	758.1	72.7	22.6	37	WNW	18	8	.....	.....	5	.....	.....	Blank	Blank	Meteorological Obs.
Archangel	29.78	756.4	29.80	756.9	65.1	18.4	44	W	9	4	.....	.....	6cs	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.49	723.6	29.82	757.4	85.5	29.7	45	S	4	2	.....	.....	7k	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.89	759.1	29.80	757.0	81.7	27.6	49	N	2	1	.....	.....	9ks	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.24	742.6	29.68	753.9	74.7	23.7	55	W	7	3	.....	.....	10	.....	.....	.....	Thunder-storm	Cand. Faijanow.
Kasan	29.29	743.9	29.54	750.3	80.4	26.9	56	WSW	9	4	.....	.....	4ks	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.94	735.1	29.55	758.1	82.6	28.1	42	SE	9	4	.....	.....	2c	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	29.41	747.1	29.63	752.6	92.7	33.7	28	NNW	9	4	.....	.....	1ks	.....	.....	.....	.....	
Tashkend	28.07	713.0	29.51	749.6	91.0	32.8	46	E	9	4	.....	.....	0	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.19	741.3	29.65	753.1	81.5	27.5	42	N	0	0	.....	.....	9	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.50	749.2	29.77	756.2	72.9	22.7	77	SW	4	2	.....	.....	4	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.19	741.3	29.33	744.9	74.5	23.6	98	Calm	0	0	.....	.....	8n	.....	.....	.....	Thunder	Physical Observatory
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29 65	753.1	29.75	755.7	66.9	19.4	98	SE	10.3	4.6	.....	.....	8n	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.62	752.4	29.71	754.6	67.8	19.9	62	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.83	757.7	29.93	760.3	75.2	24	58	ESE	3.8	1.72	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.98	761.5	30.04	762.9	71.1	21.7	71	NW	4.0	1.80	.....	2	7	W	.....	0.008	0.2	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687.2	.....	.....	68.2	20.2	49	SW	4.7	2.11	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.74	704.7	29.84	757.8	84.7	29.3	28	NW	7.4	3.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.6	86.0	30.0	49	ENE	6.5	2.92	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	740.0	30.01	762.3	66.4	19.1	70	NW	5.6	2.5	.....	.....	3	.....	.....	0.059	1.5	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.8	30.02	762.5	83.1	28.4	72	E	8.5	3.8	.....	1c	0	E	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.89	759.2	84.6	29.2	80	SSW	4.5	2.0	.....	2c	4kn	E	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.0	71.2	21.8	63	WNW	13.3	5.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.94	760.4	30.03	762.7	79.9	26.6	80	E	10.7	4.80	.....	6kn	6kn	E	E	1.043	26.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.80	756.9	29.84	757.9	63.(	17.2	....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.80	756.8	29.85	758.1	61.9	16.6	78	S	.....	.....	4	.....	9	.....	.....	0.008	0.2	.....	
Hernosand	29.76	755.9	29 81	757.2	61.5	16.4	81	S	.....	.....	4	.....	8	.....	.....	0.01(	0.4	.....	
Stockholm	29.67	753.6	29.85	758.1	68.0	20 0	79	S	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.74	755.3	29.80	756.8	69.4	20.8	44	SSE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.1	29.82	757.3	69.8	21.0	46	SSW	12.5	5.6	.....	.....	3	SW	S	0.0 4	0.01	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 44° 42', W. 11° 45'	.....	.....	30.13	765.4	59.5	15.3	.....	NNW	.	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applie at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.50	723.9	29.90	759.5	63.1	17.3	55	SW	.....	.....	3	.....	8	.....	.....	2.551	64.8	Cloudy	The Observatory.
Zurich	28.29	718.5	29.86	758.5	60.4	15.8	77	W	.....	.....	2	.....	6	.....	.....	0.370	9.4	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −3.7 mm.; Thermometer,—5.8 Cent.; Relative Humidity, +2 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.96	761.0	77.0	25.0	47	NE	27	12.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	763.9	88.2	31.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.76	756.0	91.9	33.3	58	SW	.....	.....	3	.....	3s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.83	757.7	29.89	759.2	67	19.4	68	NW	4	1.8	.....	2k	8ks	NW	NW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.85	758.2	29.89	759.2	69	20.6	69	SW	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.67	753.6	29.86	758.4	74.0	23.3	71	NW	.....	.....	2	0	2s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.72	754.9	29.88	759.0	61	16.1	91	N	.....	.....	1	0	7ks	.....	.....	0.25	6.3	Cloudy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.84	757.9	29.86	758.4	60	15.6	87	SW	5	2.2	.....	5k	2s	NW	Calm	0.45	11.4	Fair	J. McWilliams.
Fredericton, N. B	29.85	758.2	29.91	759.7	69.1	20.6	65	S	1	0.4	.....	.....	10s	.....	.....	0.05	1.3	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.92	734.6	29.71	754.6	67	19.4	81	W	10	4.5	.....	5k	5ks	N	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.91	734.3	29.95	760.7	75	23.9	81	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.87	758.7	29.97	761.2	70	21.1	72	SW	5	2.2	.....	2c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.66	750.8	29.91	759.7	75.2	24.0	77	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.91	759 7	72	22.2	76	SW	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.89	759.2	29.92	760.0	68.0	20.0	73	SW	6	2.7	.....	7c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.68	753.9	29.87	758.7	72	22.2	75	SW	7	3.1	.....	.....	10ks	.....	NW	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.23	742.4	29.89	759.2	71	21.7	86	W	15	6.7	.....	.....	10n	.....	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.91	759.7	75.7	24.3	77	SW	.....	.....	1	0	3ks	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	29.96	761.0	70	21.1	95	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.90	759.4	29.95	760.7	65.6	18.7	.....	Calm	0	0	.....	.....	.....	.....	.....	0.30	7.6	Fine	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.96	761.0	73	22.8	86	W	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.61	752.1	29.92	760.0	65	18.3	78	NW	.....	.....	3	.....	10n	.....	NE	0.65	16.5	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.42	747.3	29.86	758.4	65	18.3	92	Calm	0	0	.....	.....	10ks	.....	NW	0.66	16.8	Heavy rain	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.2	64	17.8	78	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.76	755.9	29.92	760.0	61	16.1	82	S	10	4.5	.....	3ck	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.90	759.4	74	23.3	75	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.17	740.9	29.91	759.7	74	23.3	72	N	9	4.0	.....	2k	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.72	729.5	29.94	760.5	70.7	21.5	89	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.89	759.2	29.93	760.2	67	19.4	73	SW	10	4.5	.....	8cs	0	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.66	750.8	29.93	760.2	72	22.2	76	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.89	759.2	29.99	761.7	77.0	25.0	57	W	4	1.8	.....	0	0ck	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock	28.92	734.6	29.93	760.2	75.2	24.0	77	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.80	756.9	30.04	763.0	70.0	21.1	95	SW	0	0	.....	5k	5s	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.77	756.1	29.99	761.7	74	23.3	63	Calm	0	0	.....	1c	0	NW	.....	0	0	Clear	
Alpena, Michigan	29.26	743.2	29.87	758.7	74	23.3	76	W	11	4.9	.....	0	0	.....	.....	0.27	6.9	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	48	8.9	92	S	9	4.0	.....	0	8s	.....	S	0.08	2.0	Cloudy	
Atlanta, Georgia	28.86	733.0	29.96	761.0	73	22.8	85	NE	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Atlantic City, New Jersey	30.06	763.5	30.07	763.8	73	22.8	81	NE	2	0.9	.....	0	Haze	....	Calm	0	0	Clear	
Augusta, Georgia	29.82	757.4	30.01	762.2	77	25.0	77	E	3	1.3	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Baltimore, Maryland	30.03	762.7	30.08	764.0	73	22.8	72	SE	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	30.03	762.7	30.05	763.3	75	23.9	68	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.04	712.2	29.90	759.4	68	20.0	79	NW	6	2.7	.....	0	0	.....	.....	0.18	4.6	Clear	
Boerne, Texas	28.53	724 6	29.78	756.4	76	24.4	82	SW	10	4.5	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	57	13.9	68	E	3	1.3	.....	5cs	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.52	757 4	29.96	761.0	73	22.8	55	SW	10	4.5	.....	5c	0	NW	.....	0	0	Fair	
Brackettville, Texas	28.82	732.0	29.81	757.2	76	24.4	73	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.83	732.3	29.77	756.1	69	20.6	100	W	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Brownsville, Texas	29.86	758.4	29.90	759.4	85	29.4	72	Calm	0	0	.....	2k	0	SE	.....	0	0	Clear	
Buffalo, New York	29.28	743.7	29.94	760.5	73	22.8	76	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	27	S	.....	.....	1	5cs	0	E	.....	0	0	Fair	
Burlington, Vermont	29.65	753.1	29.92	760.0	73	22.8	67	S	5	2.2	.....	5c;ck	0	SW	.....	0	0	Fair	
Cairo, Illinois	29.64	752.8	30.01	762.2	76	24.4	82	NE	6	2.7	.....	0	2ks	.....	NE	0.04	1.0	Fair	
Campo, California	27.43	696.7	30.09	762.0	45	7.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	74	23.3	86	NE	9	4.0	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	73	22.8	85	NE	4	1.8	.....	5cs	2ks	E	E	0	0	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.02	762.5	77	25.0	86	NE	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Cape May, New Jersey	30.04	763.0	30.07	763.8	69	20.6	85	E	1	0.4	.....	0	Fog	.....	.....	0	0	Clear	
Castroville, Texas	29.17	740.9	29.84	757.9	78	25.6	82	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.94	760.5	29.99	761.7	77	25.0	86	NE	2	0.9	.....	.....	10s	.....	.....	3.08	78.2	Cloudy	
Charlotte, North Carolina	29.19	741.4	29.97	761.2	72	22.2	95	E	3	1.3	.....	.....	10n	.....	E	0.54	13.7	Light rain	
Chattanooga, Tennessee	29.22	742.2	29.98	761.5	77	25.0	77	Calm	0	0	.....	2ck	1ks	N	Calm	0.31	7.9	Fair	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	64	17.8	58	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.30	744.2	29.95	760.7	81	27.2	67	SW	4	1.8	.....	2cs	Haze	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.40	746.7	30.01	762.2	79	26.1	74	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cleveland, Ohio	29.30	744.2	29.98	761.5	75	23.9	72	SE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Coleman City, Texas	28.14	714.7	29.71	754.6	76	24.4	73	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.20	741.7	29.98	761.5	80	26.7	62	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.01	711.4	29.59	751.6	78	25.6	73	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.50	749.3	29.95	760.7	80	26.7	66	S	4	1.8	.....	0	5ks	.....	S	0	0	Fair	
Davenport, Iowa	29.36	745.7	29.96	761.0	78	25.6	78	SW	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.43	645.9	.....	.....	63	17 2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.78	731.0	29.88	758.9	83	28.3	64	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.10	739.1	29.85	758.2	81	27.2	70	S	10	4.5	.....	2k	0	S	.....	Inap.	Inap.	Fair	
Denver, Colorado	24.87	631.7	30.09	764.3	72	22.2	54	S	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Des Moines, Iowa	29.05	737.9	29.88	758.9	76	24.4	82	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.33	745.0	29.96	761.0	73	22.8	85	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.35	694.7	29.50	749.3	74	23.3	90	NE	4	1.8	.....	5ck	5s	S	Calm	0	0	Cloudy	
Dubuque, Iowa	29.28	743.7	29.94	760.5	78	25.6	78	S	2	0.9	.....	1c	Haze	W	Calm	0	0	Fair	
Duluth, Minnesota	29.17	740.9	29.81	757.2	64	17.8	89	NE	6	2.7	.....	.....	10s	.....	NE	0.32	8.1	Cloudy	
Eagle Pass, Texa	29.17	740.9	29.86	758.4	80	26.7	66	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.85	758.2	29.92	760.0	63	17.2	72	S	5	2.2	.....	10c;hz	Haze	NW	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	75	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.29	667.8	.....	.....	73	22.8	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.28	743.7	29.96	761.0	77	25.0	69	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.24	742.7	29.86	758.4	77	25.0	77	S	1	0.4	.....	2c	0	W	.....	0	0	Fair	
Florence, Arizona	28.45	722.6	30.05	763.3	77	25.0	46	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.91	708.9	.....	.....	55	12.8	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	74	23.3	36	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.34	745.2	29.84	757.9	89	31.7	50	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.21	614.9	30.01	762.2	75	23.9	23	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.66	728 0	29.86	758.4	77	25.0	53	S	5	2.2	.....	8k	0	Calm	.....	0	0	Cloudy	
Fort Keogh, Montana	27.44	697.0	.....	.....	61	16.1	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.72	704.1	29.54	750.3	75	23.9	56	S	10	4.5	.....	0	0	....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.64	727.4	29.69	754.1	75	23.9	68	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2	.....	.....	64	17.8	78	SW	4	1.8	.....	1c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	35	W	.....	.....	1	5k	0	SW	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.70	754.4	80	26.7	59	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.95	760.7	29.99	761.7	84	28.9	79	S	4	1.8	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	28.82	732.0	29.80	756.9	80	26.7	48	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.93	760.2	79	26.1	74	SW	6	2.7	.....	0	0	.. ..	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.92	734.6	29.80	756.9	78	25.6	73	SE	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.24	742.7	29.97	761.2	80	26.7	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.95	760.7	29.98	761.5	85	29.4	76	Calm	0	0	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.75	730.2	29.81	757 2	80	26.7	41	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.97	761 2	29.99	761.7	80	26.7	82	SW	6	2.7	.....	.....	10s	.....	Calm	0.54	13.7	Cloudy	
Keokuk, Iowa	29.35	745.5	29.92	760.0	80	26.7	78	S	2	0.9	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Key West, Florida	30.01	762.2	30.04	763.0	81	27.2	74	S	7	3.1	.....	5k	5ks	SE	SE	0	0	Threatening	
Kittyhawk, North Carolina	30.03	762.7	30.07	763.8	73	22.8	81	NE	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	76	24.4	82	N	3	1.3	.....	8k	1ks	Calm	E	0.28	7.1	Fair	
La Crosse, Wisconsin	29.15	740.4	29.84	757.9	79	26.1	78	S	8	3.6	.....	5k	0	NW	.....	0	0	Fair	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.86	758.4	80	26.7	59	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.85	758.2	80	26.7	82	SE	6	2.7	.....	5cs	Haze	W	.....	0	0	Fair	
Little Rock, Arkansas	29.62	752.3	29.96	761.0	80	26.7	78	Calm	0	0	.....	2ck	5ks	Calm	Calm	0	0	Cloudy	
Los Angeles, California	29.65	753.1	29.99	761.7	56.5	13.6	81	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.48	748.8	30.01	762.2	77	25.	77	N	2	0.9	.....	1k	0	.....	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.40	746 7	30.05	763.3	80	26.7	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.97	735.8	29.89	759.2	77	25.0	77	SW	7	3.1	.....	2c	0	SW	.....	0	0	Fair	
Marquette, Michigan	29.15	740.4	29.81	757.2	72	22.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.34	719.8	30.00	762.0	80	26.7	59	SW	6	2.7	.....	1ck	0	SE	.....	0	0	Clear	
Memphis, Tennessee	29.63	752.6	29.95	760.7	80	26.7	78	E	6	2.7	.....	0	5ks	.....	SW	0	0	Fair	
Milwaukee, Wisconsin	29.23	742 4	29.92	760.0	78	25.6	73	SW	9	4.0	.....	2c	0	Calm	.....	0.23	5.8	Clear	
Mobile, Alabama	29.95	760.7	29.99	761.7	82.5	28.1	69	NW	8	3.6	.....	0	2s;hz	.....	Calm	0	0	Fair	
Montgomery, Alabama	29.75	755.6	29.97	761.2	83	28.3	70	N	5	2.2	.....	2c	Haze	NW	Calm	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10)	Clouds. Amount. Upper. (1—10)	Clouds. Amount. Lower. (1—10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Rather.	Observer.
Morgantown, West Virginia	29.06	738.1	30.01	762.2	74	23.3	81	Calm	0	0	.....	2ck	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	23.93	607.8	30.29	769.4	54	12.2	93	NW	30	13.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.48	748.8	29.99	761.7	76	25.6	86	Calm	0	0	.....	.....	9ks	.....	.....	0.43	10.9	Cloudy	
New Haven, Connecticut	29.90	759.4	30.01	762.2	78	25.6	67	SW	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	
New London, Connecticut	29.97	761.2	30.01	762.2	75	23.9	60	SW	4	1.8	.....	1c	0	Calm	.....	0	0	Clear	
New Orleans, Louisiana	29.97	761.2	30.02	762.5	84	28.9	75	W	5	2.2	.....	0	1ks	.....	W	0	0	Clear	
Newport, Rhode Island	29.96	761.0	30.01	762.2	70	21.1	70	SW	11	4.9	.....	1c	0	Calm	.....	0	0	Clear	
New York, New York	29.86	758.4	30.03	762.7	69	20.6	69	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.02	762.5	30.08	764.0	75	22.8	81	SE	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
North Platte, Nebraska	27.05	687.3	29.50	749.3	66	18.9	70	SE	4	1.8	.....	2cs	8s	S	S	0.25	6.3	Cloudy	
Olympia, Washington Ter.	29.96	761.0	30.00	762.0	63	11.7	96	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Omaha, Nebraska	28.76	730.5	29.78	756.4	79	26.1	82	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.66	753.4	29.96	761.0	78	22.8	81	SW	6	2.7	.....	2ck	0	Calm	.....	0	0	Fair	
Pembina, Dakota	28.57	725.3	29.65	753.1	66	18.9	84	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Philadelphia, Pa.	30.00	762.0	30.05	763.3	78	22.8	60	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.71	729.2	30.40	772.1	84	28.9	67	Calm	0	0	.....	.....	10s	.....	S	Inap	Inap.	Cloudy	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	42	5.6	10	NW	15	6.7	.....	2cs	Sm'e	W	.....	0	0	Smoky	
Pioche, Nevada	.....	.....	.....	.....	58	14.4	12	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	30.00	762.0	68	20.0	96	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.30	744.2	29.93	760.2	76	23.9	77	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.87	758.7	29.92	760.0	71	21.7	80	SW	3	1.3	.....	8k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	30.00	762.0	30.07	763.8	65	12.8	77	S	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.82	630.4	30.18	766.6	67	19.4	50	SW	.....	.....	1	5ck	0	W	.....	0	0	Fair	
Pilot Point, Texas	29.05	737.9	29.83	757.7	87	30.6	40	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.03	762.7	82	27.8	79	NE	5	2.2	.....	2c	2ks	Calm	Calm	0	0	Fair	
Red Bluff, California	29.64	752.8	29.99	761.7	68	17.3	47	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.96	761.0	82	27.8	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.35	745.5	29.93	760.2	74	23.3	67	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
*Roseburg, Oregon	29.54	750.3	30.11	764.8	46	8.1	88	NW	2	0.9	.....	2c	2ck	SW	SW	0	0	Fair	
Sacramento, California	29.92	760.0	30.00	762.0	66	18.8	81	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.43	747.5	29.97	761.2	78	25.6	78	SE	4	1.8	.....	2c	Sm'e	Calm	.....	0	0	Fair	
St. Marks, Florida	29.99	761.7	30.00	762.0	82	27.8	87	SW	13	5.8	.....	0	2s	.....	W	0	0	Fair	
St. Paul, Minnesota	28.98	736.1	29.75	755.6	78	25.6	86	SE	4	1.8	.....	5c	0	SW	.....	0	0	Fair	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	61	16.1	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.30	744.2	29.85	758.2	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.92	760.0	29.99	761.7	68	17.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.36	745.7	30.00	762.0	78	22.8	76	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.01	762.2	30.04	763.0	79	26.1	61	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.00	762.0	30.07	763.8	56	13.3	81	W	8	3.6	.....	0	0s	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.89	594.1	29.93	760.2	58	14.4	53	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.93	760.2	30.02	762.5	77	25.0	86	NE	4	1.8	.....	.....	10s	.....	NE	0.44	11.2	Cloudy	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	80	26.7	74	S	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.01	762.2	30.04	763.0	71	21.7	100	NE	12	5.4	.....	.....	10n	.....	NE	1.65	41.9	Light rain	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	29.37	746 0	30.01	762.2	83	28.3	67	N	1	0.4	.....	5c;cs	0	Calm	.....	0	0	Fair	
Springfield, Massachusetts	29.87	758.7	29.99	761.7	73	22.8	67	S	2	0.9	.....	2c	0	N	.....	0	0	Fair	
Stockton, Texas	26.86	682.2	29.86	758.4	75	23.9	4	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.96	761.0	30.01	762.2	65	18.3	84	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.81	744.5	29.95	760.7	79	26.1	66	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.53	699.2	30.08	764.0	76	24.4	64	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Umatilla, Oregon	29.63	752.6	30.11	764.8	60.0	15.6	60	E	4	1.8	.....	0	8ks	.....	W	0	0	Fair	
Uvalde, Texas	29.43	747.8	29.82	757.4	76	23.9	72	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.01	762.2	82	27.8	75	SW	5	2.2	.....	5ck	0	Calm	.....	0	0	Fair	
Virginia City, Montana	23.75	603.5	29.83	757.7	53	11.7	36	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.09	738.8	29.97	761.2	60	15.6	46	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.96	761.0	30.07	763.8	74	23.3	72	SE	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	56	S	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.93	760.2	30.01	762.2	75	23.9	77	E	7	3.1	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	51	10.6	59	SW	3	1.3	.....	0	5s	.....	SW	0*	0	Fair	
Wood's Holl, Mass.	29.96	761.0	30.00	762.0	70	21.1	70	SW	12	5.4	.....	2c	0	NE	.....	0	0	Clear	
Yankton, Dakota	28.60	726.4	29.80	756.9	78	25.6	82	SW	4	1.8	.....	8ck	0	SW	.....	0	0	Cloudy	
Yuma, Arizona	29.73	755.1	29.88	758.9	74	23.3	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.21	640.3	.....	.....	65.0	18.6	77	Calm	.....	.....	0	1c;cs	0	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I.	29.90	759.4	29.98	761.5	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0.14	3.6	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	83	NE	.....	.....	2	4c	5k	E	.....	0.020	0.51	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,523 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.84 in., or 160.9 mm.; Denver, 5.22 in., or 132.6 mm. Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡	.....	.....	84	28.9	91	W	6	2.7	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.84‡	757.9‡	.....	.....	72.5	22.5	85	Calm	.....	.....	0	.....	7ks;n	.....	E	slight	slight	.....	.....	Clearing.....	
Adams, N. 29° 36′, W. 116° 48′..	30.00‡	762.0‡	.....	.....	67	19.4	84	NW	.....	.....	4	.....	10	.....	NW	.....	.....	Rough	NW	Cloudy.....	
Alliance. Antwerp, Belgium.....	29.66‡	753.4‡	.....	.....	61	16.1	82	SSW	.....	.....	2	.....	9	.....	W	.....	.....	.....	.....	Cloudy.....	
Ashuelot, Yokohama, Japan	29.85‡	758.2‡	.....	.....	74	23.3	86	WSW	.....	.....	1	.....	10	.....	S	.....	.....	Smooth	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.01‡	762.2‡	.....	.....	71	21.7	66	SW	6	2.7	.....	.....	.....	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, N. 43° 47′, W. 68° 42′.....	29.94‡	760.5‡	.....	.....	55	12.8	91	SW	.....	.....	4	.....	5	.....	SW	0	0	.....	.....	Clear.....	
Constitution, League Isl. Navy Yard, Pa.	30.04‡	763.0‡	.....	.....	70	21.1	80	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, N. 59° 00′, E 21° 53′.....	29.92‡	760.0‡	.....	.....	62	16.7	77	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
Franklin. Norfolk, Va.	30.07‡	763.8‡	.....	.....	73	22.8	85	SE	3.6	1.6	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Hartford. Montevideo, Uruguay...	29.67‡	753.6‡	.....	.....	59	15.0	82	NNW	7	3.1	.....	.....	10	.....	NNW	0	0	.....	.....	Cloudy.....	
Independence, Mar I'd. Navy Yard, Cal.	30.08‡	764.0‡	.....	.....	63	17.2	40	SW	6	2.7	.....	.....	7	.....	SW	.....	.....	.....	.....	Clear?.....	
Kearsarge, N. 42° 40′ W. 51° 40′.....	30.07‡	763.8‡	.....	.....	62	16.7	89	E	.....	.....	4	.....	10	.....	E	.....	.....	Smooth	.....	Misty.....	
Michigan, Erie, Pa.....	29.91‡	759.7‡	.....	.....	76	24.4	73	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Shanghai, China.....	29.67‡	753.6‡	.....	.....	85	29.4	100	SE	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan.....	29.86‡	758.4‡	.....	.....	76	24.4	82	SW	.....	.....	1	.....	kn	.....	.....	0	0	.....	.....	D. clouds....	
New Hampshire. Port Royal, S. C.....	30.00‡	762.0‡	.....	.....	77	25.0	91	N	6	2.7	.....	.....	10	.....	Calm	0.30	7.6	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†	30.23‡	767.8‡	.....	.....	60	15.6	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy.....	
Palos, Shanghai, China.....	29.68‡	753.9‡	.....	.....	82	27.8	96	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.....	.....	.....	.....	.....	72	22.2	95	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	30.04‡	763.0‡	.....	.....	60	15.6	94	Calm	0	0	.....	.....	10	.....	.....	0	0	Smooth	.....	Overcast....	
Portsmouth. Boston, Mass.....	29.96‡	761.0‡	.....	.....	67	19.4	64	SW	.....	.....	2	.....	2	.....	S	0	0	Smooth	.....	Clear	
Powhatan, Portland, Me.....	29.90‡	759.4‡	.....	.....	68	20.0	84	SW	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.94‡	760.5‡	.....	.....	76	24.4	48	NE	.....	.....	5	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Ranger, Hong-Kong, China.....	.....	.....	.....	.....	85	29.4	91	Calm	.....	.....	0	.....	5?	.....	Calm	.....	.....	Smooth	Calm	Clear?.....	
Richmond, Yokohama, Japan	29.85‡	758.2‡	.....	.....	75	23.9	81	Calm	.....	.....	0	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas.....	29.89‡	759.2‡	.....	.....	80	26.7	96	S	.....	.....	1	.....	5	.....	S	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md...	30.07‡	763.8‡	.....	.....	75	23.9	86	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Saratoga, New York City, N. Y....	30.01‡	762.2‡	.....	.....	70	21.1	80	W	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	D. clouds....	
St. Louis, League Island, Pa	30.08‡	764.0‡	.....	.....	70	21.1	75	SW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Antwerp, Belgium.....	29.65‡	753.1‡	.....	.....	64	17.8	78	SW	.....	.....	2	.....	5	.....	WSW	0.03	0.8	.....	.....	Fair.....	
Tuscarora, Mare Island Navy Yard, Cal	30.04‡	763.0‡	.....	.....	58	14.4	94	SSW	.....	.....	3	.....	2	.....	SSW	0	0	Smooth	.....	Clear.....	
Vandalia, New London, Conn.....	30.01‡	762.2‡	.....	.....	69	20.6	80	SW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.95‡	760.7‡	.....	.....	74	23.3	59	SW	5	2.2	.....	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Wyoming, Fiume, Austria.....	29.82‡	757.4‡	.....	.....	75	23.9	56	ESE	....	.....	2	.....	2	.....	SE	.....	.....	Smooth	SE	Clear.....	
Wachusett, 75 miles above New Orleans, La..	30.07‡	763.8‡	.....	.....	79	26.1	91	S	.....	.....	1-2	.....	2	.....	Calm	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 18° 29', W. 89° 15'...†		29.98‡	761.5‡	80	26.7	91	SW			1		4		SW	0.28 in. or 7.1 mm	Mod'ate	S	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse, Esquimault, Vancouver I.†		30.02‡	762.5‡	60	15.6		Calm			0		4?			0			Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 23° 54', W. 154° 47'		29.96‡	761.6‡				ENE			1		1		SE		Light	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer
S.S Gaelic, Capt. Davidson, Yokahama, Japan...†		29.94‡	760.5‡	78	25.6		NNE			3		ks		NE	0	Smooth		Overcast	J .A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 25° 24', E. 119° 59'		29.71‡	754.6‡	80	26.7	87	SSW			4		0				Smooth		Blue sky	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peifer, N. 44° 13', W. 49° 36'		30.12‡	765.0‡	59.0	15.0	85	Calm			0		5			14h'rs	Smooth		Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.70‡	754.4‡				NNW			2		8		S				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.51‡	749.5‡	68	20.0	84	N			3		8		N	Light			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
S. S. Belgenland, N. 48° 50′, W. 25° 58′		29.92‡	760 0‡				S	25	11.2			10		SW		Rough	S	Raining	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N 24° 12′, W 81° 36′		30.06‡	763.5‡	84	28.9	71	ESE	9	4.0			8ks		SE	0	Short		Cloudy	Capt. James Jorgensen.
Schooner Charley Buck														ENE					W. H. Champlin.
Brigantine "George of Halifax", N 18° 55′, W 67° 30′	†	30.14‡	765.5‡				ENE			5		2		ENE	Blank	Rough	ENE	Squally	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner
Nordenskiold of Sundsvall, Sweden																			Capt P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

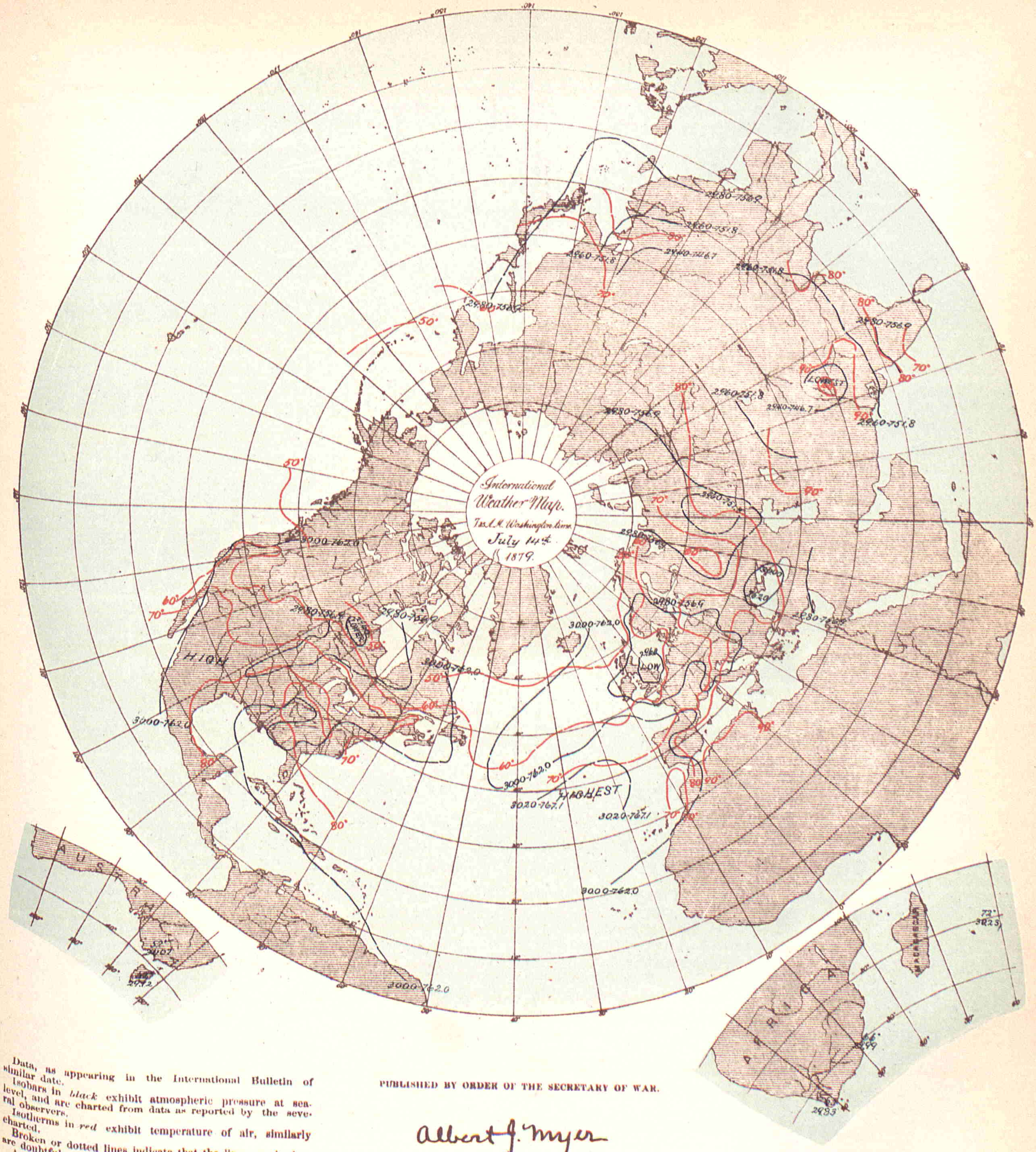
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.5	68.0	20.0	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.00	762.0	86.7	30.4	58	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.96	761.0	78.8	26.0	73	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.97	761.3	81.7	27.6	79	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.01	762.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.00	761.9	88.5	31.4	30	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.93	760.3	95.9	35.5	28	W	.....	.....	8	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	29.88	761.5	84.2	29.0	42	SW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	29.91	759.8	100.0	37.8	21	WSW	.....	.....	6	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.86	758.4	104.0	40.0	17	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.20	741.7	29.72	755.0	72.1	22.3	60	SE	.....	.....	1	.....	4	.....	.....	0.134	3.4	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.98	736.2	29.72	754.9	72.3	22.4	87	SW	.....	.....	1	.....	10	.....	.....	0.028	0.7	.....	Dr. Wierabiski.
Eperies	28.86	733.1	29.69	754.2	73.0	22.8	64	Calm	.....	.....	0	.....	9s	.....	.....	0.067	1.70	.....	Julius Mikolik.
Gratz	28.56	725.4	29.77	756.2	64.4	18.0	72	S	.....	.....	1	.....	10	.....	.....	0.071	1.8	.....	Andreas Rospini.
Hermannstadt	28.33	719.6	29.65	753.1	85.3	29.6	62	S	.....	.....	3	.....	5	.....	.....	0.671	17.05	.....	Prof. A. Gottschling.
Kremsmünster	28.45	722.6	29.76	755.9	60.1	15.6	78	WSW	.....	.....	4	.....	10	.....	.....	0.169	4.3	.....	Prof. C. Wagner.
Lemberg	28.74	729.9	29.68	753.9	70.0	21.1	67	NW	.....	.....	1	.....	6	.....	.....	0.059	1.5	.....	Dr. T Stanecki.
Pola	29.65	753.2	29.76	756.0	78.6	25.9	49	WSW	.....	.....	2	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.30	744.3	29.74	755.5	76.5	24.7	94	SW	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Julius Csics, S. J.
Szegedin	29.41	746.9	29.67	753.7	74.5	23.6	69	W	.....	.....	3	.....	9	.....	.....	0.022	0.55	.....	Karl Stancel.
Trieste	29.06	738.3	29.76	755.9	76.6	24.8	55	SW	.....	.....	1	.....	2	.....	.....	0.091	2.3	.....	P. Busin.
Vienna	29.06	738.1	29.80	757.0	66.2	19.0	66	ESE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.82	757.4	29.92	760.0	52.7	11.5		N	13	5.8			9			0	0	Overcast	W. Boswell.
Ardrossan	29.89	759.2	29.90	759.4	55	12.8		SW			1		8					Misty	Wm. McNeil & G. Carrick
Armagh, Observatory	29.69	754.1	29.91	759.7	60.0	15.6		NE	3	1.3			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.86	758.4	60.6	15.6		NNE	5	2.2			10					Overcast	John Hartnup.
Bolton (Sharples)			29.85	758.2	54.0	12.2		NE	6	2.7			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.47	748.5	29.86	758.4	54.5	12.5		NE			1		10			0.02	0.5	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	83.5	28.6		E			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.73	755.1	29.82	757.4	61.9	16.6		N			1		10					Drizzling	H. Todd.
Cardington			29.80	756.9	64.0	17.8		N			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.68	753.9	29.81	757.2	62.5	16.9		N			1		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.88	758.9	29.92	760.0	57	13.9		NNE			3		3					D. clouds	J. Mac Gowan.
Dover	29.77	756.1	29.79	756.7	61	16.1		SW			2		7					Showery	J. Costello.
Falmouth, Observatory	29.70	754.4	29.92	760.0	62.4	16.9		WNW			5		9					Overcast	The Staff.
Fort Napier (Natal)	27.48	698.0	29.76	755.9	71.0	21.7		W			4		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	77	25.0		W			1		4					D. clouds	
Galway, Queen's College			29.98	761.5	64	17.8		S			1		10					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.2	29.98	761.5	75.8	24.3		W			6		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.70	754.4	29.91	759.7	55.9	13.3		ENE			2		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.77	756.1	29.77	756.1	59	15.0		NNE			2		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.65	753.1	29.82	757.4	61.1	16.2		N			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.68	753.9	29.90	759.4	58.6	14.7		WSW			3		7					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.86	758.4	29.96	761.5	59	15.0		NW			1	2c				0.29	7.4	Fine	M. P. Moyle.
Holyhead	29.88	758.9	29.89	759.2	57	13.9		NNE			3		5					D. clouds	John Tilston.
Jersey	29.65	753.1	29.94	760.5	57.6	14.2		WNW			4		10					Gloomy	J. Fisher.
Kew, Observatory	29.80	756.9	29.83	757.7	61.6	16.4		NNW	8	3.6			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.54	750.3	29.78	756.4	59.9	15.6		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.85	758.2	29.92	760.0	78	25.6		NE			2		0					Blue sky	A. King.
Nairn	29.84	757.9	29.93	760.2	52	11.1		ENE			2		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.07	763.8	85.5	29.7		SE			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.65	753.1	29.84	757.9	60.3	15.7		N			4		10k;d		NNE	0.001	0.03	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.32	744.7	29.84	757.9	59.2	15.1		N			3		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.85	758.2	58	14.4		N			1		10					Gloomy	H. E. Bellamy.
Plymouth	29.61	757.2	29.89	759.2	61.4	16.3		NW			1		10					Gloomy	John Merrifield.
Prince Town	28.46	722.9	29.92	760.0	53.9	12.2		W					10					Gloomy	W. H. Tooker.
*Roche's Point	29.61	757.2	29.96	761.0	62	16.7		SW			2		5					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.72	754.9	29.88	758.9	59	15.0		NNW			1		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.95	760.7	52.9	11.6		N	10	4.5			10					Light clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.76	755.9	29.82	757.4	69.6	32.0		NE			2		0					Blue sky	Sergt W. H. Lyne.
Sheffield	29.59	751.6	29.87	758.7	56.3	13.5		NE			2		10			0	0	Gloomy	W. F. Cooper.
Silloth Rectory	29.58	758.9	29.91	759.7	54.2	12.3	82	E			3		9			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory			29.89	759.2	55.5	13.1		NNE	9	4.0			10					Gloomy	Rev. S. J. Perry.
Stratfield, Turgiss	29.62	752.3	29.83	757.7	62.6	17.0		NW			1–2		10					Overcast	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.89	759.2	29.91	759.7	65	18.3		NW			4		7					D. clouds	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.89	759.2	61.3	16.3		WNW	7	3.1			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.86	758.4	29.90	759.4	54.2	12.3	93	NNW	14.8	6.6		10	9			0.370	9.40	Rainy	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.92	760.0	43	6.1	.80	NW			3		7n			0.03	0.8		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.94	760.5	54.2	12.3		E			1		10s			0	0	Overcast	Andrew Gibb
Mauritius, Observatory	30.05	763.3	30.24	768.2	71.2	21.8	59	ESE	19.0	8.5		0	2		SE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	44.2	6.8	88	W	5	2.2			0			0.04	1.0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.90	759.4	53	11.7		ENE			4	5	3	E		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.92	760.0	49	9.4		N			2	3	7	N		0	0		Robert Burnet.
Colesberg Bridge																			

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.: Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
H. M. S. "Fawn," N. 40° 35′. E. 28° 50′			29.87‡	758.7‡	75	23.9		Calm			0		0					Misty	Capt. W. J. L. Wharton.
Algeria, N. 48° 05′, W. 32° 55′			29.93	760.2	59	15.0		NW			4		9			4	WNW	Overcast	Capt. Wm. Watson
Agnes Wilson, N. 40° 40′, W. 58° 00′			29.99	761.7	66	18.9		ESE			2		7			4	sw;wsw	Misty	Capt. H. W. Dyke.
Astarte, N. 50° 10′, W. 26° 20′ *			29.58‡	751.3‡	57	13.9		NW			4		10					Foggy	Capt. Parson.
Barque Commewyne, N. 11° 35′, W. 55° 20′			30.02	762.5	83	28.3		NNE			4		2					Blue sky	Capt. A. Buchan.
Theophane, S. 24° 20′, W. 1° 30′			30.20‡	767.1‡	62.8	17.1		SSE			7		5					Showery	Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
Barque Fedalma																			Capt. H. L. Fox.
British Peer																			Capt. Raymond.

Note.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.23	666.2	29.95	760.7	67.1	19.5	90	SE			2	4ks	8s	NE		0.2	5.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.54	750.2	29.58	751.4	60.4	15.8	97	NE			2		10					Raining
Fanöe	29.77	756.1	29.79	756.6	55.4	13.0	97	W			6		10					Raining
Godthaab (Greenland)	29.98	761.6	30.03	762.7	45.0	7.2	93	NNE			4		0					Foggy
Stykkisholm (Iceland)	29.97	761.3	30.02	762.4	47.5	8.6	98	SE			4		5					
Thorshavn (Faröe)	29.97	761.3	30.01	762.2	49.3	9.6	71	NE			2		10					
Vestervig	29.54	750.4	29.65	753.2	59.7	15.4	98	NNE			2		10					Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.3	29.93	760.3	64.0	17.8	72	SW			1		5		SW	0.35	9.	Cloudy	Collignon, Director.
Amiens, Normal School	29.69	754.2	29.80	756.9	59.4	15.2	96	SW			1		10			0.280	6.6	Covered	Bouvallet, Director.
Arras, Engin'r School	29.58	751.3	29.83	757.7	62.6	17.0	72	W			1				W	0.087	2.2		Klein, Commandant.
Avignon, Normal School	29.90	759.4	29.96	761.4	73.9	23.3	45	NW			1		2		NW	0	0	Partly cl'dy	Giraud, Direc'r.
Bar-sur-Seine	29.34	745.3	29.89	759.3	58.3	14.6	76	SW			2		10		SW	0.382	9.7	Raining	C. Saillard, Director.
Beauvais, Normal School	29.57	751.0	29.83	757.6	61.7	16.5	81	W			2		8		WNW	0.197	5.00	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.08	738.6	29.97	761.2	58.5	14.7	82	S			1		10		S	0.728	18.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.4	30.07	763.7	61.0	16.6	80	S			1		km	W	W	0.343	8.7		Marlot, Director.
Bourges, Normal School	29.34	745.1	29.87	758.8	63.0	17.2	81	W			1		5ckn	W	W	0.08	2.	Raining	M. Gence, Director.
Brest, Naval Observatory	29.70	754.4	29.95	760.6	61.5	16.4	81	WNW			1		10		NW	0.049	1.25		Ch. de Rermarec, Dir.
Carcassonne, Normal School	29.65	753.0	30.05	763.2	71.6	22	38	WNW			2		5		W	0.020	0.5	Cloudy	September, Dir.
Caen, Normal School	29.82	757.4	29.89	759.3	61.5	16.4	67	W			1				W	0.165	4.2		Lair, Director.
Chartres, Normal School	29.26	743.2	29.81	757.2	63.0	17.2	92	E			1		10		SE	0.224	5.7	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.3	29.85	758.3	59.0	15.0	75	SW			3		8	WSW	WSW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.5	29.97	761.3	63.5	17.5	40	W			1		8		W	0.047	1.2		Allnard, Director.
Commercy, Normal School	29.02	737.1	29.87	758.7	58.6	14 8	91	W			3		5ckn	W	W	0.087	2.2	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.89	733.7	30.03	762.7	67.6	19.8	84	NW			5		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.24	742.8	30.00	762.0	64.4	18.0	55	NW			2		8kn		NE	0.08	2.	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.82	757.4	30.03	762.7	64.8	18.2	71	WSW			1		8		WNW	0.354	9.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.63	752.7	29.94	760.4	64.4	18	65	SW			3		8		W	0.301	7.65	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.08	738.5	29.98	761.4	60.3	15.7	80	S			1		8		W	0.417	10.60	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.92	760.0	30.02	762.6	61.2	16.2	79	W			3				W	0.122	3.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.67	753.5	29.93	760 2	70.7	21.5	48	NW			6		1			0	0	Partly cl'dy	E. Stephan, Director
Mirecourt, Normal School	28.88	733.5	29.91	759.8	57.2	14	73	WSW			3		10		WSW	0.24	6.	Covered	Barbier, Director
Mont-Louis	24.90	632.5	30.22	767.5	59.0	15.0	68	E	24.2	10.8			0			0	0		M. Cave.
Nismes, Normal School	29.83	757.6	30.03	762.8	74.1	23.4	35	W			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.58	751.3	62.6	17.0	74	WNW			2		7		WNW	0.551	14.0		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.58	573.5			46.4	8.0		NW			2		0			0	0	Clear	Gen'l de Nansouty.
Perpignan	29.96	760.6	30.05	763.2	69.3	20.7	39	NW	13.0	5.8			8		WNW	0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.13	638.2			40.3	4.6	100	W			7					0.303	7.7	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.01	762.3	30.04	763.1	65.7	18.7	75	W			1		10	W	W	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.78	756.4	29.87	758.6	61.3	16.3	76	WSW			2		5		W	0.358	9.1	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.91	759.6	29.94	760.4	62.8	17.1	72	WNW			3		5	WSW	WSW	0.184	4.68	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.70	754.3	29.86	758.5	61.9	16.6	77	NW			1		10		W	0.173	4.4		E. Renou, Director.
Tarbes, Normal School	29.07	738.4	30.11	764.9	75.2	24	67	SSW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.40	746.7	30.12	765.1	66.4	19.1	57	WNW			3		6			0	0		M. Julier Mercadier.
Tours	29.74	755.3	29.93	760.3	64.9	18.3	67	W			3		8		WNW	0.248	6.3		Cousin-Marquet.
Versailles, Observatory	29.37	746.0	29.87	758.6	61.5	16.4	72	NW			3					0.323	8.22		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.26	743.1	29.95	760.7	68.9	20.5	64	WSW			2		5		E	0.220	5.6	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	81.0	27.2										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.80	745.8	29.97	761.2	64.9	18.3	59	SSW			1		5		W	0.039	1.0	Cloudy	Ch. André, Director.
Nice			29.76	755 8	77.0	25.0	46	WSW			7		2			0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.59	751.6	29.61	752.2	84.6	29.2	79	SE	9.8	4.4			0			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:55 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,580.40 m., or 5,294.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.6 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.0	29.85	758.3	59.9	15.5	74	W			4		4	W		0.016	0.4	Raining	Prof. Dr. Hoh:
Berlin	29.54	750.3	29.71	754.5	68.5	20.3	60	W			1		7			0.016	0.4		Prof. Dr. Arndt.
Breslau	29.24	742.8	29.77	756.2	65.8	18.8	56	W			2		10			0.315	8.08		Royal University Ob'sy.
Carlsruhe	29.42	747.2	29.83	757.7	63.0	17.2	68	SW			2		8	SW		0.213	5.4		Albert Senx.
Cassel	29.19	741.4	29.79	756.7	65.8	18.8	67	NW			2		10	S		0.476	12.16		Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	67.6	19.8	54	W			3		7k			0.20	5.		Director Lose.
Emden			29.76	755.9	66.2	19.0	66	NW			2		5			0.087	2.2		Prof. Dr. Prestel.
Frankfort on the Main	29.45	748.1	29.81	757.2	63.5	17.5		WNW			1		8			0.173	4.4		Physical Society.
Freienwalde on the Oder	29.65	753.1	29.69	754.1	64.0	17.8	78	SW			3		6ks	SW		0.165	4.2	Thunder-storm.	Dr. Assmann.
Friedrichshafen	25.50	723.8	29.91	759.8	58.3	14.6	82	SW			4		10	WSW		0.031	0.8	Raining	M. Wilhelm.
Hamburg	29.63	752.7	29.70	754.4	66.0	18.9	66	NW			4		9k			0.110	2.8	Fair	Captain F. Hegemann
Kiel	29.68	753.8	29.69	754.2	61.0	16.1	81	WNW			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.58	751.4	29.66	753.4	59.9	15.5	87	SW			4		8			0.150	3.8		Prof. E. Luther.
Köslin			29.71	754.7	62.4	16.9		W			2		3			0.583	14.8		H. Müller.
Leipsic Observatory	29.33	744.9	29.73	755.1	71.2	21.8	54	SW			2		8	W		0.024	0.6		Prof. Bruhns, Privy Counselor.
Memel	29.59	751.6	29.64	752.8	69.1	20.6	64	SE			3		10s						Skalweit.
Munich (München)	28.08	713.1	29.93	760.2	54.1	12.3	87	SW			5		10	SW		0.130	3.3	Rainy	Dr. C. Larg.
Neufahrwasser	29.64	752.8	29.65	753.2	66.9	19.4	61	W			3		8			0.122	3.1		A. Lothes.
Posen	29.45	748.0	29.73	755.1	68.5	20.3	58	NW			1		7			0.512	13.0		Dr. Magener.
Strassburg (in Alsace)	29.35	745.6	29.89	759.2	64.4	18.0	55	W			3		9	W		0.098	3.49		Imp. University Observatory.
Stuttgart	28.89	733.8	29.81	757.1	62.6	17.0	77	NW			6		9	W		0.118	3.0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.35	720.2	29.85	758.1	55.8	13.2	77	W	2	1			10		W	0.197	5.0		T. Hopfner.
Wustrow	29.67	753.5	29.69	754.1	59.2	15.1	85	W			5		10s			0.008	0.2		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:5, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.50	749.2	29.91	759.6	90.1	32.3		NE			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.50	749.3	29.55	750.6	84.0	28.9	68	SW					8	SW		W	0	0	D. clouds
Deesa	29.13	739.9	29.60	751.7	86.9	30.5	53	SW	22.6	10.1			7			SW	0	0	Squally
Bombay	29.72	754.8	29.75	755.7	84.5	29.2	76	W	14.0	6.3			4			W	0.03	0.8	D. clouds
Poona	27.90	708.6	29.75	755.6	79.0	26.1	63	WNW					6				0	0	D clouds
Lahore	28.62	726.9	29.32	744.6	103.2	39.6	28	W	5.0	2.2			2			W	0	0	Blue sky
Belgaum	27.28	692.9	29.84	757.8	71.6	22.0	86	W	15.0	6.7			10				0.19	4.8	Overcast
Roorkee	28.48	723.3	29.35	745.4	86.5	30.4	74	Calm	1.3	0.6			10				0	0	
Agra	28.39	733.7	29.43	747.6	89.7	32.1	56	SW					7			SW	0	0	
Nagpur	28.58	725.9	29.60	751.8	87.9	31.1	50	WNW	5.4	2.4			9			SE	0.06	1.5	D. clouds
Lucknow	29.07	738.4	29.44	747.8	84.3	29.1	83	S	1.0	0.4			10				0.03	0.8	Overcast
Allahabad	29.20	741.7	29.51	749.5	86.1	30.1	75	Calm	3.8	1.7			10				0	0	Overcast
Patna	29.34	745.3	29.52	749.9	84.0	28.9	79	WSW	1.3	0.6			10	SW		SW	0.34	8.6	Overcast
Hazaribagh	27.57	700.3	29.57	751.0	78.0	25.6	78	W	9.8	4.4			10				0.03	0.8	Drizzling
Cuttack	29.51	749.6	29.59	751.7	84.4	29.1	76	WSW	2.0	0.9			9				0.03	0.8	Drizzling
Calcutta (Alipore)	29.58	751.3	29.60	751.8	77.4	25.2	95	WNW	4.0	1.8			10			SW			Thunder-storm.
Goalpara	29.15	740.4	29.54	750.2	76.8	24.9	94	NW	1.4	0.6			10				0.68	14.7	Overcast
Chittagong	29.58	751.4	29.65	753.9	76.8	24.9	97	ESE	6.1	2.7			9				0.11	2.8	
Sibsagar	29.23	742.4	29.57	750.8	81.4	27.4	86	W	3.1	1.4			10	W		W	0.10	2.5	D. clouds
Jubbulpore	28.12	714.3	29.46	748.2	85.3	29.6	50	NW	6.6	3.0			10	NE			0	0	Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 663.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	Velocity.		Force.	CLOUDS. Amount.		Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Up'er	Low'r	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.37	746.0	29.76	756.0	64.9	18.3	61	E	6.3	2.8	.....	.....	8	.....	.....	0.488	12.4	.....	Prof. Giovanni Clodig.
Milan	29.26	743.2	29.76	755.9	72.3	22.4	44	NNE	.....	.....	2	.....	3	WSW	.....	0.205	5.2	.....	Prof. Schiaparelli.
Padua	29.66	753.3	29.76	756.0	70.7	21.5	57	W	4.3	1.9	.....	.....	1	.....	.....	0.087	2.2	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.85	732.7	29.72	754.9	73.4	23.0	34	N	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.62	752.3	29.80	757.0	72.1	22.3	54	S	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.89	708.3	29.73	755.2	73.6	23.2	20	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.71	754.6	29.76	755.8	82.0	27.8	27	SW	17.4	7.8	.....	.....	1	W	.....	0.236	6.0	.....	Prof. Luigi Guidi.
Florence	29.61	752.2	29.86	758.5	75.2	24.0	41	SW	.....	.....	6	.....	1	.....	.....	0.110	2.8	.....	Cav. F. Meucci.
Leghorn	29.77	756.2	29.86	758.3	71.6	22.0	55	WNW	15.4	6.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.71	754.7	29.88	759.0	81.9	27.7	49	WSW	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.61	752.0	29.85	758.3	90.3	32.4	29	S	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.05	737.9	29.89	759.2	86.7	30.4	61	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.3	29.93	760.1	80.8	27.1	46	W	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.69	754.2	29.94	760.5	77.7	25.4	66	E	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.81	757.1	29.88	759.0	90.3	32.4	32	ESE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.39	746.6	29.95	760.7	77.5	25.3	62	SW	4.3	1.9	.....	.....	3	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.78	756.4	29.79	756.6	75.2	24.0	88	Calm	0	0	.....	.....	9s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	751.3	29.77	756.1	75.9	24.4	90	SW	1.6	0.7	.....	.....	3s	.....	.....	0.025	0.63	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory.	29.83	757.7	29.89	759.2	69.6	20.9	78	ENE	2.0	0.9	.....	.....	6s	.....	.....	0	0	Fair	The Staff.
Wakayama	29.75	755.6	29.80	756.9	73.7	23.2	91	ESE	0.2	0.1	.....	.....	0	.....	.....	0.170	4.32	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.07	636.7	30.12	765.0	54.5	12.5	73	Calm	.....	.....	0	.....	3	.....	Calm	0.37	9.4	Clear	Prof. L. Perez.
Leon	24.44	620.7	30.06	763.6	63.7	17.6	81	SW	.....	.....	1	2c	5k	E	.....	0.07	1.7	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.3	30.04	763.0	57.2	14.0	81	NW	3.8	1.7	.....	2k	0	.....	.....	0.04	1.0	Clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.5	16.4	70	NW	.....	.....	1	3c	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
Tlacotalpam	29.03	760.3	29.95	760.6	79.2	26.2	85	SW	.....	.....	1	2	0	SW	.....	0	0	Clear	Prof. M. M. Chazaro.
San Luis Potosi	24.24	615.6	30.18	766.6	60.1	15.6	50	SE	.....	.....	1	1	4	W	E	0	0	½ Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rosell.
Zacatecas	22.58	573.5	30.15	765.8	57.0	13.9	81	NE	.....	.....	3	1c	1s	.....	.....	0	0	Fine	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	52.7	11.5	73	NE	1.3	0.6	.....	1c	2s	NE	SE	0.02	0.6	Clear	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.59	751.6	29.92	759.9	80.4	26.9	99	NW	.....	.....	2	9	0	NW	.....	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.79	756.6	29.79	756.6	66.9	19.4	.....	SE	.....	.....	2	.....	.....	.....	.....	0.071	1.8	.....	
Groningen	29.71	754.6	29.79	756.6	63.5	17.5	.....	NW	.....	.....	1	.....	.....	.....	.....	0.264	6.7	.....	
Helder	29.78	756.4	29.78	756.4	60.4	15.8	.....	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.76	755.9	29.76	755.9	68.7	20.4	68	W	.....	.....	1	.....	.....	.....	.....	0.047	1.2	.....	
Utrecht	29.75	755.7	29.80	756.9	63.8	17.4	70	SW	.....	.....	2	.....	8	.....	.....	0.012	0.3	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of *Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.*

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.69	754.0	29.74	755.4	63.7	17.6	67	W	10.3	4.6	.....	.. ....	0	.....	.....	0	0	.....	
Brönno	29.76	755.9	29.80	756.9	52.7	11.5	70	N	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.67	753.1	29.71	754.7	68.3	20.2	58	SW	7	3	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.77	756.1	29.81	757.2	49.6	9.8	74	NNE	9	4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.03	762.7	30.21	767.4	77.4	25.2	79	SSW	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.7	30.03	762.7	79.7	26.5	28	NW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.08	764.0	30.17	766.2	73.0	22.8	68	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.1	30.12	765.1	71.1	21.7	48	NNE	16.1	7.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.22	767.6	30.29	769.3	79.5	26.4	69	W	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Paul de Loando	.....	.....	30.07	763.6	73.9	23.3	.....	Calm	.....	.....	0	.....	10	.....	.....	0	.....	Overcast	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.5	64.4	18.0	.....	WSW	.....	.....	4	.....	0	.....	.....	1	wsw	Blue sky	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.92	760.0	80.6	27.0	.....	NE	.....	.....	2	.....	4	.....	NE	.....	.....	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.88	758.9	82.8	28.2	.....	SW	.....	.....	7	.....	4	.....	SW	2	SW	D. clouds	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of *Professor H. Wild, Director* of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.30	744.1	29.76	754.3	71.1	21.7	55	WSW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
	29.29	743.9	29.69	754.1	70.3	21.3	60	S	9	4	.....	.....	8	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Wilna	29.67	751.1	29.80	757.0	71.6	22.0	50	E	7	3	.....	.....	1ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Dorpat	29.81	757.1	29.82	757.5	68.7	20.4	40	SSE	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
St. Petersburg	29.10	739.2	29.70	754.4	77.2	25.1	47	SSW	13	6	.....	.....	10k;ks;	ck]	.....	.....	.....	.....	Physical Cabinet.
Kieff	29.82	757.3	29.89	759.1	81.0	27.2	39	SSW	18	8	.....	.....	4ck	.....	.....	.....	.....	.....	Kurdakof.
Nikolaiev	29.97	761.1	29.98	761.6	76.9	24.8	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kertch	29.19	741.4	29.71	754.7	68.9	20.5	44	NNE.	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.61	752.1	29.81	757.1	80.6	27.0	29	WNW	9	4	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.84	757.9	29.86	758.4	60.6	15.9	62	N	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Archangel	28.48	723.4	29.81	757.1	88.0	31.1	41	SE	4	2	.....	.....	4cs	.....	.....	.....	.....	.....	Physical Observatory.
Tiflis	29.94	760.5	29.86	758.4	80.8	27.1	36	E	2	1	.....	.....	5cs	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Astrakhan	29.18	741.1	29.64	752.9	66.4	19.1	58	NW	2	1	.....	.....	9ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Krotkowo*	29.33	745.0	29.59	751.5	65.5	18.6	62	SW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Kasan	26.74	730.0	29.64	752.9	80.8	27.1	46	E	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	29.41	747.0	29.63	752.5	94.5	34.7	33	NNW	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	
Nukuss	28.12	714.3	29.58	751.2	87.1	30.6	55	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tashkend	29.13	739.9	29.60	751.8	77.5	25.3	52	NNE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Barnaul	29.53	750.0	29.80	756.9	87.3	30.7	45	WNW	4	2	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Yeniseisk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Irkutsk	29.26	743.1	29.40	746.7	87.1	30.6	53	SW	4	2	.....	.....	1k	.....	.....	.....	.....	Thunder	Physical Observatory.
Peking (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	29.73	755.1	29.83	757.6	63.0	17.2	98	SE	7	3	.....	.....	10n	.....	.....	.....	.....	Rain & fog	
Vladivostock	29.57	751.0	29.65	753.2	65.7	18.7	73	E	8	4	.....	.....	10s	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.93	760.3	30.04	763.0	66.7	19.3	63	NW	2.8	1.24	.....	4	2	W	.....	0	0	Cloudy	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763.6	30.12	765.0	71.6	22.0	71	ESE	3.0	1.33	.....	.....	10	.....	.....	0.012	0.31	Misty	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.2	.....	.....	67.6	19.8	38	N	6.6	2.96	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.80	706.1	29.89	759.2	86.5	30.3	29	NE	3.7	1.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.82	757.5	29.97	761.1	88.0	31.1	51	ESE	4.5	2.00	.....	2	4	NE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	740.0	30.01	762.3	66.4	19.1	58	NW	5.6	2.5	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.4	30.04	763.0	83.8	28.8	72	ESE	2.5	1.1	.....	2c	0	E	.....	0.020	0.5	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	757.9	29.89	759.2	81.4	27.4	91	E	0	0	.....	.....	10n	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.4	30.07	763.9	70.9	21.6	62	WNW	11.0	4.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.3	30.02	762.6	83.8	28.8	78	SE	5.2	2.33	.....	2cs	3k	SE	SE	.....	.....	Raining	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—	Inches.	Millimeters.		
Haparanda	29.79	756.7	29.83	757.7	63.0	17.2	.....	SE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Umea	29.76	755.8	29.81	757.1	60.4	15.8	89	SW	.....	.....	4	.....	8	.....	.....	0	0	.....	
Hernosand	29.71	754.7	29.76	756.0	65.8	18.8	75	S	.....	.....	4	.....	6	.....	.....	0	0	.....	
Stockholm	29.56	750.8	29.74	755.3	68.7	20.4	51	E	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.60	751.9	29.66	753.4	71.2	21.8	53	ESE	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.0	29.73	755.2	69.8	20.7	55	ESE	8.7	3.9	.....	.....	7	WSW	SW	0	0	.....	
Naval Series.																			
Corvette Saga, N. 45° 24', W. 11° 03'	.....	.....	30.07	763.6	61.2	16.2	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.57	725.6	29.08	761.4	59.2	15.1	67	SSW	.....	.....	3	.....	4	.....	.....	0.205	5.2	Cloudy	The Observatory.
Zurich	28.32	719.4	29.05	760.6	58.6	14.8	75	W	.....	.....	2	.....	10	.....	.....	0.370	9.4	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.0 mm.; Thermometer,—7.5 Cent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.88	759.0	79.6	26.4	55	NNE	8	3.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.00	762.1	91.0	32.8	.....	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.5	92.3	33.5	60	SW	.....	.....	3	.....	1clk	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.79	756.7	29.84	757.9	65	18.3	64	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. A. Bain.
Charlottetown, P. E. Island	29.77	756.1	29.81	757.2	66	18.9	89	W	3	1.3	.....	.....	10n	.....	NW	0.107	2.72	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.70	754.4	29.80	759.2	69.9	21.1	91	W	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	James Smith, M. A.
Dalhousie, N. B	29.69	754.1	29.85	758.2	62	16.7	66	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.87	758.7	56	13.3	83	NW	3	1.3	.....	2cs	0	W	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29 81	757.2	29.87	758.7	69.8	21.0	62	NE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.19	741.4	30.00	762.0	60	15.6	82	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.91	734.3	29.94	760.5	78	25.6	82	SW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.73	755.1	29.84	757.9	65	18.3	81	NW	1	0.4	.....	.....	8ks	.....	NW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.62	752.3	29.96	761.0	79.8	26.6	84	NW	.....	.....	1	0	0	.....	.....	0.30	7.6	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.61	752.1	29.93	760.2	73	22.8	85	SW	4	1.8	.....	2c	Haze	Calm	SW	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.78	756.4	29.82	757.4	65.8	18.8	92	SW	7	3.1	.....	.....	10n	.....	.....	1.05	26.7	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.71	754.6	29.90	759.4	68	20.0	95	SW	4	1.8	.....	.....	10s	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.20	741.7	29.86	758.4	73	22.8	88	W	5	2.2	.....	.....	10n	.....	.....	0.54	13.7	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.21	741.9	29.92	760.0	77.2	25.1	75	Calm	.....	.....	0	5k	0	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.30	744.2	29.96	761.0	76	24.4	95	Calm	0	0	.....	.....	0	.....	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	65.6	18.7	.....	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	Peter Grant.
Port Stanley, Ontario	29.36	745.7	29.98	761.5	74	23.3	94	W	1	0.4	.....	5k	0	W	.....	0	0	Foggy	M. Payne.
*Quebec, Quebec	29.62	752.3	29.94	760.5	61	16.1	83	NW	.....	.....	1	0	0	.....	.....	0.45	11.4	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.41	747.0	29.85	758.2	66	18.9	92	SE	3	1.3	.....	5clk	2s	NW	SE	0.05	1.3	Fair	W. H. McIntyre.
St. Andrews, N. B	29.81	757.2	29.87	758.7	66	18.9	88	N	.....	.....	1	0	0	.....	.....	0.03	0.8	Clear	Dr. Gove.
St. John, N. B	29.68	753.9	29.84	757.9	66	18.9	86	NE	3	1.3	.....	0	0	.....	.....	0.10	2.5	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.89	759.2	80	26.7	78	S	7	3.1	.....	Haze	2ks	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.16	740.7	29.89	759.2	78	25.6	73	SW	10	4.5	.....	0	0	.....	.....	0	0	Hazy	R. J. Cole.
Stratford, Ontario	28.72	729.5	29.94	760.5	78.2	22.9	93	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.75	755.6	29.78	756.4	62	16.7	98	SW	6	2.7	.....	8k	2n	W	SW	0.94	23.9	Clearing	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.95	760.7	75	23.9	77	SW	6	2.7	.....	2cs	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.80	756.9	29.80	759.2	64.0	17.8	89	NW	1	0.4	.....	.....	10nks	.....	.....	0.07	1.8	Overcast	Prof. John E. Oram.
Woodstock	28.94	735.1	29.94	760.5	78.0	25.6	82	W	5	2.2	.....	0	2ks	.....	.....	Inap.	Inap.	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.01	762.2	64.0	17.8	94	SW	.....	.....	.....	.....	10n	.....	.....	.....	.....	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.74	755.4	29.76	755.9	76	24.4	77	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.27	743.4	29.87	758.7	77	25.0	77	W	13	5.8	.....	0	5s	.....	Calm	0	0	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	47	8.3	92	SW	9	4.0	.....	10c	0	SW	.....	0	0	Fair	
Atlanta, Georgia	28.95	735.3	30.05	763.3	74	23.3	85	E	10	4.5	.....	.....	10s	.....	E	0.03	0.8	Cloudy	
Atlantic City, New Jersey	30.02	762.5	30.03	762.7	72	22.2	85	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.90	759.4	30.10	764.5	79	26.1	78	SE	3	1.3	.....	Haze	2s	Calm	SE	0.01	0.3	Fair	
Baltimore, Maryland	29.99	761.7	30.04	763.0	77	25.0	57	S	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	29.99	761.7	30.01	762.2	79	26.1	66	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.32	719.3	30.17	766.3	60	15.6	82	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.55	725.2	29.80	756.9	79	26.1	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.05	687.1	30.01	762.2	61	16.1	55	NW	3	1.3	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.78	756.4	29.92	760.0	79	26.1	66	NW	8	3.6	.....	1c	0	Calm	.....	0	0	Clear	
Brackettville, Texas	28.82	732.0	29.80	756.9	80	26.7	96	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.06	738.1	30.04	763.0	59	15.0	82	NW	2	0.9	.....	8cs	0	W	.....	0.04	1.0	Cloudy	
Brownsville, Texas	29.39	759.2	29.94	760.5	85	29.4	76	SE	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Buffalo, New York	29.29	744.0	29.95	760.7	76	24.4	82	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	26	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.66	753.4	29.94	760.5	73	22.8	76	N	1	0.4	.....	0	2ks	.....	NW	0	0	Fair	
Cairo, Illinois	29.64	752.8	30.03	762.7	82	27.8	71	SE	1	0.4	.....	2c	Haze	Calm	.....	0	0	Fair	
Campo, California	27.41	696.2	29.98	761.5	41	5.0	82	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.08	764.0	30.08	764.0	76	24.4	82	NE	2	0.9	.....	1cs	Haze	Calm	.....	0.05	1.3	Hazy	
Cape Henry, Virginia	30.03	762.7	30.05	763.3	74	23.3	81	SE	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.07	763.8	30.08	764.0	76	24.4	77	NE	4	1.8	.....	Haze	0	Calm	.....	Inap.	Inap.	Dense haze	
Cape May, New Jersey	30.01	762.2	30.04	763.0	71	21.7	85	S	4	1.8	.....	0	Fog	.....	.....	0	0	Clear	
Castroville, Texas	29.20	741.7	29.88	758.9	81	27.2	74	SE	4	1.8	.....	0	5s	.....	SE	0	0	Fair	
Charleston, South Carolina	30.01	762.2	30.06	763.5	78	25.6	82	NE	7	3.1	.....	.....	10s	.....	.....	1.50	38.1	Cloudy	
Charlotte, North Carolina	29.26	743.2	30.03	762.7	79	26.1	70	SE	1	0.4	.....	0	Sme'	.....	Calm	0.05	1.3	Clear	
Chattanooga, Tennessee	29.30	744.2	30.06	763.5	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	63	17.2	83	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Chicago, Illinois	29.31	744.5	29.96	761.0	83	28.3	60	SW	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.44	747.8	30.00	762.5	78	25.6	78	Calm	0	0	.....	.....	Fg;smk	.....	Calm;SE	0	0	Foggy	
Cleveland, Ohio	29.34	745.2	30.02	762.5	79	26.1	74	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Coleman City, Texas	28.18	715.8	29.76	755.9	79	26.1	70	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.25	742.9	30.03	762.7	83	28.3	64	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Concho, Texas	28.09	713.5	29.68	753.9	78	25.6	73	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	80	26.7	78	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Davenport, Iowa	29.36	745.7	29.96	761.0	79	26.1	70	SW	3	1.3	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.57	649.5	.....	.....	60	15.6	65	SW	4	1.8	.....	2k	0	SW	.....	0.03	0.8	Fair	
Decatur, Texas	28.81	731.8	29.91	759.7	82	27.8	56	S	8	3.6	.....	2ck	0	SW	.....	0	0	Fair	
Denison, Texas	29.18	741.1	29.93	760.2	79	26.1	74	S	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Denver, Colorado	24.91	632.7	30.13	765.3	66	18.9	79	NW	20	8.9	.....	2ck	8s	W	W	0	0	Cloudy	
Des Moines, Iowa	29.12	739.6	29.95	760.7	78	25.6	73	Calm	0	0	.....	8c	Haze	NW	Calm	0	0	Fair	
Detroit, Michigan	29.35	745.5	29.98	761.5	76	24.4	82	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.36	694.9	29.52	749.8	73	22.8	63	SW	4	1.8	.....	0	5ks	.....	S	0	0	Fair	
Dubuque, Iowa	29.30	744.2	29.95	760.7	79	26.1	78	S	2	0.9	.....	2ck	Haze	W	Calm	0	0	Hazy	
Duluth, Minnesota	29.31	744.5	29.96	761.0	68	20.0	70	SW	6	2.7	.....	0	0	.....	.....	0.09	2.3	Clear	
Eagle Pass, Texa	29.18	741.1	29.88	758 9	80	26.7	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.78	756.4	29.84	757.9	68	20.0	84	NW	6	2.7	.....	0	Fog	.....	NW	Inap.	Inap.	Clear	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	91	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.20	665.5	.....	.....	70	21.1	61	N	4	1.8	.....	1k	0	SE	.....	0	0	Clear	
Erie, Pennsylvania	29.31	744.5	29.98	761.5	80	26.7	74	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.27	743.4	29.88	758.9	76	24.4	56	NW	3	1.3	.....	8k	0	W	.....	Inap	Inap	Cloudy	
Florence, Arizona	28.42	721.9	30.02	762.5	77	25.0	31	SW	3	1.3	.....	5ck	0	W	.....	0.01	0.3	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.14	714.7	.....	.....	54	12.2	86	SW	5	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	69	20.6	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.40	746.7	29.89	759.2	87	30.6	58	SE	7	3.1	.....	2ck	0	S	.....	0	0	Fair	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	68	20.0	70	N	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Fort Griffin, Texas	28.69	728.7	29.90	759.4	78	25.6	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.54	699.5	.....	.....	60	15.6	66	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.75	704.8	29.58	751.3	76	24.4	64	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.76	755.9	78	25.6	57	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.32	719.3	.....	.....	57	13.9	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	74	23.3	59	SW	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.26	717.8	29.73	755.1	80	26.7	66	S	2	0.9	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.97	761.2	30.01	762.2	85	29.4	79	S	6	2.7	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	28.87	733.3	29.86	758.4	80	26.7	59	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	29.40	746.7	30.02	762.5	73	22.8	76	N	24	10.7	.....	.....	10s	.....	N	0	0	Threatening	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.98	736.1	29.86	758 4	78	25.6	57	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.28	743.7	30.00	762.0	82	27.8	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.98	761.5	30.01	762.2	82	27.8	79	S	5	2.2	.....	0	1ks	.....	S	0	0	Clear	
Jacksboro, Texas	28.87	733.3	29.91	759.7	90	32.2	50	SE	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.08	764.0	78	25.6	82	SW	2	0.9	.....	2cs	0	Calm	.....	2.10	53.3	Fair	
Keokuk, Iowa	29.33	745.0	29.91	759.7	79	26.1	74	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Key West, Florida	30.02	762.6	30.05	763.3	85	29.4	71	SE	5	2.2	.....	2k	0	SE	.....	0.06	1.5	Fair	
Kittyhawk, North Carolina	30.06	763.5	30.08	764.0	74	23.3	86	NE	1	0.4	.....	5c	0	N	.....	Inap.	Inap	Fair	
Knoxville, Tennessee	29.12	739.6	30.07	763.8	77	25.0	73	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.23	742.4	29.93	760.2	76	24.4	77	S	6	2.7	.....	8k	0	W	.....	0.10	2.5	Fair	
La Mesilla, New Mexico	26.08	662 4	30.23	767.8	66	18.9	79	Calm	0	0	.....	0	1ks	.....	Calm	0	0	Clear	
Laredo, Texas	29.54	750.3	29.86	758.4	85	29.4	51	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.88	758.9	60	26.7	78	SE	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.66	753.4	30.00	762.0	80	26.7	67	E	1	0.4	.....	2c	0	Calm	.....	0	0	Clear	
Los Angeles, California	29.59	751.6	29.93	760.2	58.0	14.4	79	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.50	749.3	30.03	762 7	82	27.8	67	NE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.38	746.2	30.02	762.5	82	27.8	67	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	29.02	737.1	29.96	761.0	76	24 4	77	E	8	3.6	.....	2c	1ks	W	W	0	0	Fair	
Marquette, Michigan	29.18	741.1	29.83	757.7	78	25.6	57	NW	8	3.6	.....	5c	0	NW	.....	0	0	Fair	
Mason, Texas	28.37	720.6	30.03	762.7	80	26.7	66	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.68	753.9	30.01	762.2	80	26.7	78	E	4	1.8	.....	2ck	Haze	Calm	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.28	743 7	29.97	761.2	76	24.4	69	E	5	2.2	.....	2c	0	W	.....	0	0	Fair	
Mobile, Alabama	30.00	762.0	30.04	763.0	81	27.2	83	N	4	1.8	.....	.....	10s	.....	Calm	1.23	31.2	Cloudy	
Montgomery, Alabama	29.84	757.9	30.07	763.8	79	26.1	82	Calm	0	0	.....	2k	5ks	N	N	0.01	0.3	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	21.10	739.1	30.04	763.0	79	26.1	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.89	606.8	30.25	768.3	50	10.0	86	NW	35	15.6	.....	0	5ks	.....	NW	1.05	26.7	Clear.....	
Nashville, Tennessee.....	29.53	750.0	30.03	762.7	85	29.4	64	E	1	0.4	.....	0	Haze	.....	.....	0	0	Clear.....	
New Haven, Connecticut.....	29.84	757.9	29.94	760.5	81	27.2	67	SW	1	0.4	.....	2c	0	Calm	.....	0	0	Clear.....	
New London, Connecticut...	29.90	759.4	29.95	760.7	78	25.6	65	W	5	2.2	.....	5ck	Haze	NW	Calm	0	0	Fair.....	
New Orleans, Louisiana.....	29.97	761.2	30.03	762.7	83	28.3	79	W	4	1.8	.....	2c	1ks	Calm	W	0	0	Fair.....	
Newport, Rhode Island.....	29.90	759.4	29.94	760.5	73	22.8	72	SW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear.....	
New York, New York.....	29.81	757.2	29.98	761.5	73	22.8	71	SW	8	3.6	.....	2cs	Haze	Calm	Calm	0	0	Fair.....	
Norfolk, Virginia.....	29.99	761.7	30.05	763.3	80	26.7	66	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska.....	27.18	690.4	29.66	753.4	66	18.9	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Olympia, Washington Ter..	29.89	758.4	29.89	759.2	54.0	12.2	100	S	1	0.4	.....	.....	10n	.....	SW	0.12	3.0	Light rain...	
Omaha, Nebraska.....	28.86	733.0	29.90	759.4	78	25.6	82	Calm	0	0	.....	5k	5s	SW	Calm	0	0	Cloudy.....	
Oswego, New York.....	29.66	753.4	29.96	761.0	72	22.2	85	W	8	3.6	.....	8c	0	W	.....	0	0	Fair.....	
Pembina, Dakota.....	29.17	740.9	29.98	761.5	67	19.9	87	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.96	761.0	30.01	762.2	74	23.3	72	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.72	729.5	30.42	772.7	82	27.8	63	E	1	0.4	.....	.....	10ks	.....	SW	0	0	Threatening	
Pike's Peak, Colorado.....	18.12	460 2	30.33	770.4	48	6.1	36	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada.....	.....	.....	.....	.....	58	14.4	12	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.26	743.2	30.03	762.7	74	23.3	81	NW	1	0.4	.....	5k	0	NW	.....	0	0	Fair.....	
Port Huron, Michigan.....	29.52	744.7	29.94	760.5	78	25.6	73	W	9	4.0	.....	0	5ks	.....	W	0	0	Fair.....	
Portland, Maine.....	29.87	758.7	29.91	759.7	72	22.2	80	N	4	1.8	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Portland, Oregon.....	29.90	759.4	29.98	761.5	58.0	14.4	88	S	6	2.7	.....	.....	10n	.....	S	Inap.	Inap.	Light rain...	
Prescott, Arizona.....	24.81	630.2	30.17	766.3	65	18.3	58	SW	.....	.....	1	5ck	0	W	.....	0	0	Fair.....	
Pilot Point, Texas.....	29.07	738.4	29.86	758.4	84	28.9	75	SE	13	5.8	.....	2k	0	Calm	.....	0	0	Fair.....	
Punta Rassa, Florida.....	30.05	763.3	30.07	763.8	83	28.3	71	NE	5	2.2	.....	5k	0	W	.....	0	0	Fair.....	
Red Bluff, California.....	29.61	752.1	29.97	761.2	63	17.2	57	SE	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.76	755.9	29.96	761.0	80	26.7	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.37	746.0	29.95	760.7	76	24.4	73	W	6	2.7	.....	2c	0	W	.....	0	0	Clear.....	
*Roseburg, Oregon.....	29.46	748.3	30.02	762.5	56	13.3	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California.....	29.80	756.9	29.97	761.2	54	12.2	80	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.49	748.3	30.00	762.0	79	26.1	74	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.05	763.3	30.07	763.8	75	23.9	95	NE	6	2.7	.....	0	9s	.....	NE	0.01	0.3	Cloudy.....	
St. Paul, Minnesota.....	29.14	740.1	29.92	760.0	75	23.9	72	N	7	3.1	.....	8cs	0	W	.....	0.02	0.5	Fair.....	
Salt Lake City, Utah.....	25.63	651.0	29.96	761.0	67	19.4	21	E	6	2.7	.....	7k	0	S	.....	0	0	Fair.....	
San Antonio, Texas.....	29.30	744.2	29.86	758.4	82	27.8	68	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Diego, California.....	29.88	758.9	29.95	760.7	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.39	746.5	30.03	762.7	78	25.6	78	W	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sandy Hook, New Jersey....	29.95	760.7	29.98	761.5	80	26.7	59	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California..	29.99	761.0	30.03	762.7	53	11.7	86	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.43	595.1	29.97	761.2	65	18.3	35	E	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Savannah, Georgia.....	29.99	761.7	30.08	764.0	78	25.6	91	N	3	1.3	.....	2k	Haze	SW	Calm	0.04	1.0	Fair.....	
Shreveport, Louisiana.....	29.78	756.4	29.99	761.7	80	26.7	78	S	2	0.9	.....	0	8ks	.....	Calm	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.08	764.0	30.12	765.0	77.	25.0	82	N	5	2.2	.....	2cs	0	N	.....	0.55	14.0	Fair.....	
Socorro, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill.....	29.38	746.2	30.02	762.5	82	27.8	63	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Springfield, Massachusetts	29.82	757.4	29.94	760.5	79	26.1	74	S	3	1.3	.....	2c	0	Calm	.....	0	0	Fair.....	
Stockton, Texas.....	29.86	682.2	29.86	758.4	74	23.3	5	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.92	760.0	29.97	761.2	70	21.1	78	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.35	745.5	29.99	761.7	83	28.3	71	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.50	698.5	30.06	763.5	75	23.9	72	Calm	0	0	.....	5c	0	Calm	.....	0.06	1.5	Fair.....	
Umatilla, Oregon.....	29.62	752.3	30.11	764.8	57.0	13.9	81	SW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Uvalde, Texas.....	29.07	738.4	29.85	758.2	80	26.7	74	E	3	1.3	.....	0	2s	.....	E	0	0	Clear.....	
Vicksburg, Mississippi.....	29.80	756.9	30.08	763.3	85	29.4	64	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana.....	24.30	617.2	29.78	756.4	56	13.3	40	SE	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Visalia, California.....	29.60	751.8	29.97	761.2	60	15.6	60	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.93	760.2	30.04	763.0	78	25.6	57	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	80	26.7	59	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
Wilmington, N. Carolina....	30.01	762.2	30.09	764.3	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Winnemucca, Nevada.....	25.65	651.2	30.01	762.2	60	15.6	39	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.90	759.4	29.94	760.5	72	22.2	75	W	14	6.3	.....	2c	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.76	730.5	30.01	762.2	62	16.7	88	NE	4	1.8	.....	.....	10n	.....	NE	2.48	63.0	Light rain...	
Yuma, Arizona.....	29.66	753.4	29.82	757.4	77	25.0	65	W	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.24	641.1	.....	.....	65.0	18.3	85	Calm	.....	.....	0	2cs	7ks	.....	.....	0.40	10.2	.....	Thomas Herran.
Navassa, W. I.....	29.90	759.4	29.98	761.5	80	26.7	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.01	762.2	30.01	762.2	81	27.2	83	E	.....	.....	2	0	4k	.....	.....	0	0	Clear.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayettoville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625(?) m.; Fort Sill, 1,100(?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft.. or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 6,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.655 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.49 in., or 63.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡	.....	.....	81	27.2	96	E	10	4.5	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.87‡	758.7‡	.....	.....	72	22.2	78	NE	.....	.....	1	.....	7ks	.....	NE	0	0	.....	.....	Fair	
Adams. N. 31° 08′, W. 117° 48′	29.97‡	761.2‡	.....	.....	65	18.3	94	NW	.....	.....	3	.....	0?	.....	NW	.....	.....	Rough	NW	Clear	
Alliance. Antwerp, Belgium	29.79‡	756.7‡	.....	.....	64	17.8	68	WSW	.....	.....	2	.....	9	.....	wsw	.....	.....	.....	.....	Cloudy	
Ashuelot, Yokohama, Japan	29.87‡	758.7‡	.....	.....	72	22.2	76	NNE	.....	.....	3	.....	5	.....	Calm	.....	.....	Smooth	.....	Hazy	
Colorado, New York, N. Y.	29.92‡	760.0‡	.....	.....	76	24.4	64	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Constitution, League Isl. Navy Yard, Pa.	30.01‡	762.2‡	.....	.....	74	23.3	81	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, N. 60° 04′, E. 27° 43′	29.84‡	757.9‡	.....	.....	65	18.3	73	NE	.....	.....	2	.....	1	.....	NE	.....	.....	.....	.....	Clear	
Franklin. Norfolk, Va.	30.05‡	763.3‡	.....	.....	78	25.6	69	NW	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Hartford. Montevideo, Uruguay	30.08‡	764.0‡	.....	.....	53	11.7	67	SSW	3	1.3	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	30.06‡	763.5‡	.....	.....	60	15.6	100	SW	6	2.7	.....	.....	.....	.....	SW	.....	.....	.....	.....	Clear	
Kearsarge, N. 44° 35′ W. 50° 40′	29.94‡	760.5‡	.....	.....	56	13.3	94	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Michigan, Erie, Pa.	29.95‡	760.7‡	.....	.....	74	23.3	79	SW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	29.61‡	752.1‡	.....	.....	86	30.0	100	SE	.....	.....	1–2	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.90‡	759.4‡	.....	.....	74	23.3	81	N	.....	.....	1–2	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.07‡	763.8‡	.....	.....	80	26.7	87	Calm	0	0	.....	.....	8	.....	Calm	0.14	3.6	.....	.....	Fair	
Onward, Callao, Peru †	30.23‡	767.8‡	.....	.....	60	15.6	68	N	.....	.....	2	.....	10	.....	.....	.....	.....	Long	NW	Foggy	
Palos. Shanghai, China	29.62‡	752.3‡	.....	.....	86	30.0	76	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	78	25.6	86	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.06‡	763.5‡	.....	.....	60	15.6	88	SE	3	1.3	.....	.....	10	.....	.....	0	0	Smooth	.....	Overcast	
Portsmouth. Boston, Mass.	29.90‡	759.4‡	.....	.....	70	21.1	75	W	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Cloudy	
Powhatan, Portland, Me.	29.90‡	759.4‡	.....	.....	74	23.3	76	Calm	.....	.....	0	.....	5	.....	.....	0.32	8.1	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.87‡	758.7‡	.....	.....	77	25.0	65	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Hong-Kong, China	.....	.....	.....	.....	86	30.0	91	SW	.....	.....	3	.....	8?	.....	Calm	.....	.....	Smooth	Calm	Clear?	
Richmond, Yokohama, Japan	29.88‡	758.9‡	.....	.....	73	22.8	81	NNE	.....	.....	3	.....	0	.....	.....	0	0	Smooth	NE	Clear	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡	.....	.....	81	27.2	96	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	30.04‡	763.0‡	.....	.....	76	24.4	77	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear	
Saratoga. New York City, N. Y.	29.97‡	761.2‡	.....	.....	74	23.3	90	W	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.02‡	762.5‡	.....	.....	76	24.4	82	W	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Schelde river, Belgium	29.78‡	756.4‡	.....	.....	67	19.4	69	SW	.....	.....	2	.....	8	.....	SW	0	0	Smooth	.....	Cloudy	
Tuscarora, Mare Island Navy Yard, Cal	30.03‡	762.7‡	.....	.....	58	14.4	94	WSW	.....	.....	2	.....	1	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, New London, Conn.	30.00‡	762.0‡	.....	.....	72	22.2	90	SW	.....	.....	1	.....	2	.....	SW	0	0	Smooth	.....	Fair	
Wabash, Boston, Mass.	29.91‡	759.7‡	.....	.....	77	25.0	69	NW	7	3.1	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wyoming, Fiume, Austria	29.73‡	755.1‡	.....	.....	74	23.3	51	SSW	.....	.....	3–4	.....	5	.....	SW	.....	.....	Smooth	SW	Fair	
Wachusett, New Orleans, La	30.03‡	762.7‡	.....	.....	87	30.6	76	W	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; correction is applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
Note.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 14° 08′, W. 92° 08′...†		29.96‡	761.0‡	80	26.7	91	Calm			0		3		Calm	0.02 in. or 0.5 mm	Mod'ate	Con-fused	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelurn.
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter...†		29.98‡	761.5‡	68	14.4		SE			3		2?		SE	Light			Rainy	W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 21° 18′, W. 157° 55′		29.95‡	760.7‡				ENE			1		1		SE		Light	SE	Fine	R. C. Ghest, 1st Officer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES.																			
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer																			
S.S. Gaelic, Capt. Davidson, Yokahama, Japan...†		29.94‡	760.5‡	78	25.6		NNE			3		ks		NNE	0	Smooth		Overcast.	D. A. Joyce, 2nd Officer.
S. S. Oceanic, Capt. J. Metcalf, N. 22° 59′, E. 117° 09′		29.77‡	756.1‡	81	27.2	91	WSW			2		0				Smooth		Blue sky	J. A. Thompson, C. O.
																			J. G. Cameron.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 48° 27′, W. 58° 46′		29.97‡	761.2‡	68.0	20.0	79	W			2		8		W	15h'rs	Smooth	W	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio Bremerhaven, Germany		29.75‡	755.0‡				NNW			2		5		NW				Cloudy	Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Indiana, Liverpool, Eng		29.83‡	757.7‡	64	17.8	83	NE			3		10		N	0			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, Liverpool, Eng		29.83‡	757.7‡	64	17.8	83	NE			3		10		N	0			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland, N. 48° 07', W. 32° 07'		29.70‡	754.4‡				NW	40	17.9			10		NW		Heavy	WNW	Misty	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N 24° 45', W. 80° 10'		30.09‡	764.3‡	84	28.9	71	ESE	10	4.5			2k		SE	0	Short		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 22° 00', W. 68° 14'	†	30.19‡	766.8‡				E			5		2		E		Mod'ate	ESE	Fine	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	68.2	20.1	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.97	761.2	79.2	26.2	57	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.93	760.2	78.8	26.0	73	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.98	761.4	81.1	27.3	66	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.98	761.4	84.6	29.2	34	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.97	761.1	90.5	32.5	26	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	29.97	761.3	82.0	27.8	41	SSW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.89	759.2	101.8	38.8	28	SSW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.88	759.0	101.3	38.5	13	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.28	743.6	29.80	756.9	76.1	24.5	39	E	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.96	735.5	29.71	754.5	61.2	16.2	85	WSW	1.6	0 7	.....	.....	10	.....	.....	0.122	3.1	Raining	Prof. Dr. Karlinski, Dir.
Eperies	28.78	730.9	29.63	752.6	61.2	16.2	82	N	.....	.....	1	.....	10ns	.....	S	0.500	12.70	.....	Julius Mikolik.
Gratz	28.61	726.6	29.81	757.1	69.4	20.8	45	W	.....	.....	4	.....	0	.....	.....	0.197	5.0	.....	Andreas Rospini.
Hermannstadt	28.29	718.5	29.67	753.6	65.1	18.4	60	NW	.....	.....	3	.....	4	.....	.....	0.134	3.4	.....	Prof. A. Gottschling.
Kremsmünster	28.66	725.4	29.87	758.7	61.5	16.4	72	WNW	.....	.....	3	.....	0	.....	.....	0.433	11.0	.....	Prof. C. Wagner.
Lemberg	28.58	725.9	29.52	749.9	65.8	18.8	80	N	.....	.....	1	.....	10	.....	.....	0.843	21.4	.....	Dr. T Stanecki.
Pola	29.78	756.6	29.85	758.3	79.9	26.6	44	W	.....	.....	1	.....	3	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.21	741.9	29.67	753.6	56.5	13.6	86	W	.....	.....	5	.....	10	.....	.....	0.370	9.4	.....	Julius Csics, S. J.
Szegedin	29.44	747.8	29.71	754.7	67.6	19.8	65	W	.....	.....	4	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.77	756.2	29.87	758.8	73.4	23.0	48	N	.....	.....	1	.....	1	.....	.....	Inap.	Inap.	Almost clear	P. Busin.
Vienna	29.13	739.9	29.88	758.9	65.3	18.5	67	W	.....	.....	4	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. In'hes.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.87	758.7	29.97	761.2	51.4	10.8	.....	ESE	7	3.1	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	29.86	758.4	29.88	758.9	56	13.3	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	Wm McNeil &G.Carrick
Armagh, Observatory	29.61	752.1	29.83	757.7	57.8	14.3	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.85	758.2	60.0	15.6	.....	ESE	17	7.6	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.84	757.9	59.1	15.1	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.53	750.0	29.92	760.0	57.3	14.1	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.99	761.7	30.02	762.5	76	24.4	.....	SE	.....	.....	1	.....	9	.....	.....	Blank	Blank	Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.82	757.4	29.91	759.7	61.5	16.4	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.88	758.9	65.4	18.6	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.78	756.4	29.91	759.7	61.7	16.5	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper R. E.
Donaghadee	29.83	757.7	29.88	758.9	61	16.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.91	759.7	29.93	760.2	60	15.6	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	J. Costello.
Falmouth, Observatory	29.52	749.8	29.75	755.6	54.2	12.3	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling	The Staff.
Fort Napier (Natal)	27.53	699.2	29.82	757.4	60.4	15.8	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Dull	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	79	26.1	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	Drizzling	
Galway, Queen's College	.....	.....	29.68	753.9	57.5	14.2	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.97	761.2	76.9	24.6	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.70	754.4	29.90	759.4	55.9	13.3	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.91	759.7	29.91	759.7	57	13.9	.....	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.73	755.1	29.90	759.4	61.6	16.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.64	752.8	29.85	758.2	57.5	14.2	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	Dr. S.E.Hoskins,F.R.S.
Helston	29.67	753.6	29.79	756.7	59	15.0	.....	SE	.....	.....	6	.....	10n	.....	.....	0.04	1.0	Raining	M. P. Moyle.
Holyhead	29.80	756.9	29.82	757.4	58	14.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.61	752.1	29.90	759.4	57.0	13.9	.....	SSE	.....	.....	4	.....	10	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.87	758.7	29.90	759.4	65.0	18.3	.....	SSW	12	5.4	.....	.....	6	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.65	753.1	29.90	759.4	59.3	15.2	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.95	760.7	75.2	24.0	.....	NE	.....	.....	2	.....	1s	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.82	757.4	29.91	759.7	56	13.3	.....	E	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.08	764.0	86.2	30.1	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.72	754.9	29.91	759.7	61.7	16.5	.....	ESE	.....	.....	2	.....	10k	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.36	745.7	29.88	758.9	57.2	14.0	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.89	759.2	62	16.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.73	755.1	29.81	757.2	55.2	12.9	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.58	751.3	29.69	754.1	56	13.3	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.60	751.8	29.76	755.9	54	12.2	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.97	761.2	53.1	11.7	.....	E	10	4.5	.....	.....	10	.....	.....	.....	.....	Light clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.56	750.8	29.62	752.3	85.8	29.9	.....	SW	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.64	752.8	29.92	760.0	58.8	14.9	.....	ESE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.85	758.2	29.88	758.9	58.5	14.7	77	E	.....	.....	4	.....	6	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.87	758.7	60.6	15.9	.....	ENE	8	3.6	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.69	754.1	29.91	759.7	62.3	16.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.76	755.9	29.78	756.4	57	13.9	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.54	750.3	29.56	750.8	59.9	15.5	.....	E	27	12.1	.....	.....	10	.....	.....	.....	.....	Gloomy	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.04	763.0	30.08	764.0	67.2	14.0	65	NW	4.6	2.1	.....	10	10	.....	.....	0	0	Threatening	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.99	761.7	49	9.4	80	NW	.....	.....	3	.....	10n	.....	.....	0.03	0.8	Light rain	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park	.....	.....	29.95	760.7	54.0	12.2	.....	E	.....	.....	3	10ck	.....	W	.....	0	0	Fine	Andrew Gibb
Mauritius, Observatory	30.02	762.5	30.21	767.2	71.7	22.1	63	E	21.0	9.4	.....	1	4	.....	ESE	0.09	2.3	Squally	C. Meldrum.
Melbourne, Observatory	30.28	769.1	30.37	771.4	47.0	8.3	80	NNW	3	1.3	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.88	758.9	56	13.3	.....	S	.....	.....	3	.....	10	.....	.....	0	C	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.47	748.5	52	11.1	.....	NNE	.....	.....	6	.....	10	.....	.....	0	0	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series.

Vessels.	Barometer. Corrected for instrum'tal error and temperature. In'hes.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30'. E. 28° 50'	.....	.....	29.69‡	754.1‡	80.6	26.9	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 49° 55', W. 35° 25'	.....	.....	30.00	762.0	56	13.3	.....	N	.....	.....	2	.....	6	.....	.....	3	NE	D. clouds	Capt. Wm. Watson
Agnes Wilson, N. 41° 30', W. 50° 55'	.....	.....	29.92	760.0	76	24.4	.....	WSW	.....	.....	3	.....	4	W	.....	2	WSW	Misty	Capt. H. W. Dyke.
Astarte, N. 50° 30', W. 23° 40' *	.....	.....	29.98‡	761.5‡	57	13.9	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Capt. Parson.
Barque Commewyne, N. 15° 40', W. 56° 00'	.....	.....	30.05	763.3	83	28.3	.....	NE	.....	.....	5	.....	1	.....	.....	.....	.....	Misty	Capt. A. Buchan.
Theophane, S. 21° 35', W. 3° 45'	.....	.....	30.39‡	771.9‡	63.4	17.4	.....	ESE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.25	666.7	29.97	761.2	64.8	18.2	95	S	.....	.....	1	9kns	.....	.....	.....	0.5	12.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.60	751.8	29.65	753.0	63.3	17.4	78	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Fanöe	29.74	755.3	29.76	755.8	66.7	19.3	72	NW	.....	.....	6	.....	6	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.81	757.2	29.85	758.3	54.7	12.6	56	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.95	760.6	29.99	761.7	51.1	10.6	98	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Thorshavn (Farðe)	29 98	761.4	30.01	762.3	51.4	10.8	79	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.66	753.4	29.77	756.2	64.9	18.3	79	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29 44	747.7	29.99	761.7	63.7	19.6	65	SW	.....	.....	1	.....	8	.....	SW	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.85	758.1	29.95	760.6	71.2	21.8	62	SW	.....	.....	1	.....	5	.....	NE	0	0	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.70	754.4	29.95	760.7	67.9	19.6	57	WSW	.....	.....	1	.....	.....	.....	W	0.024	0.6	.....	Klein, Commandant.
Avignon, Normal School	29.87	758.8	29.95	760.8	74.3	23.5	50	N	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Giraud, Director.
Bar-sur-Seine	29.43	747.6	29.98	761.4	67.3	19.6	61	W	.....	.....	1	.....	8kn	.....	W	0.008	0.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.68	753.9	29.94	760.4	68.2	20.1	61	W	.....	.....	1	.....	8	.....	WSW	0.138	3.50	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.13	739.8	30.00	761.9	66.0	18.9	66	NE	.....	.....	1	.....	8	.....	N	0.559	14.2	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.5	30.09	764.2	69.4	20.8	65	SW	.....	.....	1	.....	kn	W	W	0.165	4.2	.....	Marlot, Director.
Bourges, Normal School	29.45	747.9	29.98	761.4	67.6	19.8	81	SE	.....	.....	1	.....	5kn	SE	SE	0.08	2.	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.50	749.4	29.75	755.6	57.9	14.4	93	SSE	.....	.....	3	.....	10	.....	S	0.217	5.50	Raining	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.54	750.3	29.93	760.3	78.8	26	38	W	.....	.....	1	.....	5	WNW	WNW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.85	758.1	29.92	760.0	64.4	18	69	S	.....	.....	1	.....	.....	.....	SSE	0	0	.....	Lair, Director.
Chartres, Normal School	29.35	745.6	29.91	759.7	65.1	18.4	79	SE	.....	.....	1	.....	9	.....	SW	0.47	12.	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.68	753.8	29.99	761.7	66.2	19.0	51	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.62	726.9	29.93	760.2	70.2	21.2	50	W	.....	.....	1	.....	8	.....	W	0.004	0.1	.....	Alluard, Director.
Commercy, Normal School	29.14	740.2	29.86	761.5	64.2	17.9	65	W	.....	.....	3	.....	5ckn	W	W	0.209	5.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.1	30.00	762.1	72.5	22.5	35	NW	.....	.....	3	.....	5	SW	W	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.23	742.5	29.98	761.4	69.1	20.6	59	W	.....	.....	1	.....	5kn	.....	NW	0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.76	755.8	29.98	761.4	59.7	15.4	87	S	.....	.....	1	.....	8	.....	SSW	0.04	1.	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.67	753.5	29.97	761.2	64.4	18	67	SW	.....	.....	3	.....	8	.....	SW	0.020	0.5	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.08	738.7	30.08	763.8	70.2	21.2	57	N	.....	.....	1	.....	5ks	.....	N	0.965	24.50	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.77	756.2	29.87	758.7	57.6	14.2	93	SSE	.....	.....	5	.....	.....	.....	SE	0.079	2.0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.67	753.5	29.93	760.2	70.7	21.5	48	WNW	.....	.....	3	.....	4	.....	NW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.91	734.3	29.94	760.4	63.7	17.6	76	WSW	.....	.....	1	.....	2	.....	WSW	0.20	5.	Slightly cl'dy	Barbier, Director.
Mont-Louis	24.90	632.4	30.21	767.4	67.1	19.5	51	SE	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	M. Clave.
Nismes, Normal School	29.76	755.9	29.96	760.9	74.5	23.6	34	NW	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.69	754.2	65.5	18.6	68	SSW	.....	.....	1	.....	10	.....	SW	0	0	.....	Marié Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.59	573.9	.....	.....	51.8	11.0	.....	SW	.....	.....	3	.....	9	.....	.....	0	0	Fair	Gen'l de Nansouty.
Perpignan	29.87	758.8	29.98	761.4	70.2	21.2	67	S	7.4	3.3	.....	.....	3	W	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.20	640.0	.....	.....	46.9	8.3	94	SE	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	66.2	19.0	70	SSE	.....	.....	1	.....	10	SSE	SSE	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.86	758.4	29.95	760.6	64.4	18.0	69	S	.....	.....	1	.....	8	.....	S	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.83	757.6	29.86	758.4	62.1	16.7	75	SSE	.....	.....	2	.....	8	S	S	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.1	29.97	761.3	65.5	18.6	67	SW	.....	.....	1	.....	10	.....	SSW	0.071	1.8	.....	E. Renou, Director.
Tarbes, Normal School	28.99	736.4	30.07	763.7	77.0	25	68	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.30	744.2	30.02	762.6	71.6	22.0	51	NW	.....	.....	1	.....	7	.....	WNW	0	0	.....	M. Julier Mercadier.
Tours	29.78	756.4	29.98	761.4	64.8	18.2	63	S	.....	.....	1	.....	10	.....	S	0.110	2.8	.....	Cousin-Marquet.
Versailles, Observatory	29.48	748.8	29.97	761.3	66.6	19.2	54	SW	.....	.....	2	.....	.....	.....	.....	0.052	1.32	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.27	743.4	29.96	761.0	70.9	21.6	44	WNW	.....	.....	1	.....	5	.....	SW	0.04	1.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.3	29.88	759.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.06	27.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.37	745.9	29.97	761.1	70.0	21.1	45	NNW	.....	.....	1	.....	5	.....	NW	0.039	1.0	Cloudy	Ch. André, Director.
Nice	.....	.....	29.93	760.3	75.2	24.0	55	SE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.67	753.5	29.69	754.1	84.2	29.0	86	SE	6.0	2 7	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,768 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.4	66.4	19.1	55	W			2		7	W		0.039	1.0	Raining	Prof. Dr. Hoh.
Berlin	29.54	750.3	29.71	754.6	58.6	14.8	91	SW			2		10			0.335	8.5	Raining	Prof. Dr. Arndt.
Breslau	29.26	743.2	29.79	756.6	63.7	17.6	63	NW			3		10			0	0		Royal University Ob'y.
Carlsruhe	29.53	750.1	29.95	760.7	64.0	17.8	73	SW			2		10	SW		0.008	0.2		Albert Sens.
Cassel	29.32	744.6	29.92	760.0	64.8	18.2	66	WNW			2		8	W		0	0		Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	63.1	17.3	68	NW			3		9			0	0		Director Lose.
Emden			29.85	758.3	58.3	14.6	86	NW			2		10			0.055	1.4		Prof. Dr. Prestel.
Frankfort on the Main	29.57	751.1	29.93	760.3	68.9	20.5		W			2		8			0.016	0.4		Physical Society.
Freienwalde on the Oder	29.62	752.3	29.66	753.3	58.6	14.8	96	WSW			5		10ks	SW		0.378	9.6		Dr. Assmann.
Friedrichshafen	28.57	725.7	29.98	761.4	63.1	17.3	69	SSE			4		7	W		0	0		M. Wilhelm.
Hamburg	29.70	754.4	29.77	756.1	64.4	18.0	86	NW			5		10kn			0.409	10.4	Squally	Captain F. Hegemann.
Kiel	29.70	754.3	29.71	754.7	70.5	21.4	59	NW			3		5			0.120	3.05		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.57	751.1	29.65	753.1	72.7	22.6	63	N			2		4			0.004	0.1		Prof. E. Luther.
Köslin			29.58	751.4	59.9	15.5		SW			6		4			0	0		H. Müller.
Leipsic Observatory	29.42	747.3	29.84	757.9	58.3	14.6	89	NW			3		10	WNW				Raining	Prof. Bruhns, Privy Counselor.
Memel	29.62	752.4	29.67	753.6	65.8	18.8	73	N			1		10n					Light rain	Skalweit.
Munich (München)	28.15	715.1	30.02	762.4	62.6	17.0	61	W			7		8	SW		0.035	0.9	Rain-squalls	Dr. C. Lang.
Neufahrwasser	29.65	753.0	29.66	753.4	65.5	18.6	68	ENE			3		4			0	0		A. Lothes.
Posen	29.48	748.7	29.76	755.9	59.9	15.5	63	W			5		10			0.094	2.4		Dr. Magener.
Strassburg (in Alsace)	29.44	747.8	29.97	761.3	69.4	20.8	60	S			3		5			0.041	1.03		Imp. University Observatory.
Stuttgart	29.00	736.5	29.91	759.8	64.8	18.2	60	NW			5		9	W		0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.5	29.92	760.0	60.6	15.9	65	W	2	1			8ck		NW	0	0	Hazy	T. Hopfner.
Wustrow	29.62	752.4	29.65	753.0	65.8	18.8	76	NW			3		10k			0.315	8.0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.35	745.4	29.71	754.7	91.8	33.2		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.46	748.4	29.61	749.6	82.3	27.9	77	SW	23.0	10.3			8		SW	0	0	D. clouds	
Deesa	29.15	740.3	29.61	752.1	88.1	31.2	50	SW	24.6	11.0			8		SW	0	0	D. clouds	
Bombay	29.70	754.5	29.74	755.5	84.2	29.0	78	W	15.0	6.7			4		NW	0.16	4.1	D. clouds	
Poona	27.91	708.8	29.75	755.7	79.5	26.4	64	W					4		W	0	0	D. clouds	
Lahore	28.68	728.5	29.38	746.3	102.2	39.0	30	W	3.8	1.7			0			0	0	Blue sky	
Belgaum	27.26	692.3	29.82	757.5	68.5	20.3	91	W	18.0	8.0			10		W	0.08	2.0	Showery	
Roorkee	28.55	725.2	29.42	747.2	91.8	33.2	62	Calm	1.6	0.7			0			0	0		
Agra	28.94	735.1	29.48	748.9	92.6	33.7	46	SW					0			0	0		
Nagpur	28.57	725.8	29.59	751.6	90.3	32.4	39	NW	4.6	2.1			4	E		0	0	D. clouds	
Lucknow	29.16	740.8	29.54	750.2	84.3	29.1	87	S	2.0	0.9			5	ESE		0	0	D. clouds	
Allahabad	29.23	742.4	29.54	750.2	88.1	31.2	80	Calm	3.2	1.4			8			0	0	D. clouds	
Patna	29.35	745.4	29.53	750.0	87.4	30.8	68	NNW	1.2	0.5			4	NNW	NNW	0	0	D. clouds	
Hazaribagh	27.58	700.6	29.56	750.7	82.8	28.2	68	NW	8.8	3.9			10		W	0	0		
Cuttack	29.55	750.6	29.63	752.7	80.3	26.8	80	Calm	1.0	0.4			10			0.02	0.5	Drizzling	
Calcutta (Alipore)	29.59	751.5	29.61	752.1	80.7	27.1	87	SSE	3.0	1.3			9	S	S	0	0	D. clouds	
Goalpara	29.19	741.5	29.58	751.2	79.7	26.6	90	WNW	1.8	0.8			10		W	0.85	21.6	Overcast	
Chittagong	29.62	752.4	29.72	754.8	77.6	25.3	92	SSE	6.2	2.8			9			0	0		
Sibsagar	29.29	743.8	29.62	752.2	82.2	27.9	86	ESE	1.9	0.8			10	W	W	0.04	1.0	Overcast	
Jubbulpore	28.23	717.1	29.58	751.4	82.6	28.1	66	NW	4.4	2.0			4			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature. Inches.	BAROMETER. Corrected or instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.47	748.5	29.87	758.6	74.3	23.5	41	NW	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.35	745.4	29.85	758.1	79.0	26.1	25	WSW	.....	.....	4	.....	2	WNW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.5	29.85	758.2	76.3	24.6	43	S	4.3	1.9	.....	.....	4	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.0	29.55	758.3	76.3	24.6	56	SSW	2.5	1.1	.....	.....	6	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.78	756.2	29.92	759.9	72.5	22.5	62	S	8.7	3.9	.....	.....	2	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	711.0	29.84	757.9	74.5	23.6	33	N	.....	.....	4	.....	2	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.86	758.5	72.3	22.4	57	NE	13.7	6.1	.....	.....	3	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.65	753.2	29.91	759.6	77.9	25.5	42	W	.....	.....	4	.....	4	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.83	757.6	29.91	759.7	72.0	22.2	69	W	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.72	755.0	29.89	759.3	79.7	26.5	46	W	13.7	6.1	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.56	750.9	29.81	757.2	78.8	26.0	24	NNE	17.4	7.8	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.4	29.87	758.7	84.9	29.4	59	NW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.5	29.93	760.3	78.1	25.6	29	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Padinotti.
Palermo	29.70	754.3	29.95	760.6	75.7	24.3	61	ENE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Caccatore.
Syracuse	29.81	757.2	29.88	759.0	71.4	21.9	60	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	78.4	23.0	62	SSW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.88	758.9	76.7	24.8	85	WSW	1.2	0.5	.....	.....	7s	.....	.....	0.002	0.05	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.66	753.3	29.85	758.2	77.1	25.1	90	S	8.2	3.7	.....	.....	10n	.....	.....	0.820	20.83	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.88	758.9	29.95	760.7	76.3	24.1	88	SSW	9.2	4.1	.....	8ck	0	.....	.....	0.015	0.38	Fair	The Staff.
Wakayama	29.85	758.2	29.90	759 4	78.0	25.6	85	SW	0.8	0.4	.....	.....	4s	.....	.....	0.290	7.37	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Quernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.10	637.5	30.17	766.2	68.6	12.0	74	NW	.....	.....	1	.....	8	.....	Calm	0.13	3.4	Cloudy	Prof. L. Perez.
Leon	24.46	621.3	30.11	764.7	62.4	16.9	79	NW	.....	.....	1	1c	0	NW	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.8	30.13	765.2	53.6	12.0	80	Calm	0	0	.....	2s	0	.....	.....	Inap	Inap.	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.2	16.2	75	Calm	.....	.....	0	1c	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
Tlacotalpam	29.93	760.2	29.94	760.5	77.5	25.3	85	NW	.....	.....	1	5	5	SE	NE	0	0	Threatening	Prof. M. M. Chassaro.
San Luis Potosi	24.26	616.3	30.17	766.4	63.0	17.2	72	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.59	573.7	30.15	765.9	57.4	14.1	74	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.1	30.19	766.9	50.0	10.0	63	E	1.8	0.8	.....	5ck	0	SE	.....	0	0	½clouded	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.69	754.1	29.98	761.4	78.0	22.8	92	E	.....	.....	2	2c	0	.....	.....	0.39	10.0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Quernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.1	29.97	761.1	63.3	17.4	.....	WNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.87	758.8	29.89	759.2	59.4	15.2	.....	WNW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.91	759.6	29.91	759.6	58.0	14.8	.....	WSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.95	760.7	29.95	760.7	60.8	15.7	71	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.90	759.5	29.95	760.7	61.3	16.3	75	WSW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.75	755.7	29.81	757.1	60.8	16.0	69	W	8.5	3.8	.....	.....	0	.....	.....	0	0	.....	
Brönø	29.85	758.1	29.89	759.1	50.4	10.2	65	NNE	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.67	751.1	29.71	754.6	77.0	25.0	41	SSW	9	4	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.82	757.4	29.86	758.5	48.9	9.4	80	NNE	13	6	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.03	762.7	30.21	767.4	77.0	25.0	77	W	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	29.98	761.6	86.0	30.0	27	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.8	30.15	765.8	73.9	23.3	73	SW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.09	764.2	77.0	25.0	58	N	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.17	766.2	30.23	767.9	77.4	25.2	80	W	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	Blue sky	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	
.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.23	742.4	29.63	752.6	72.0	22.2	48	NW	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.21	742.0	29.61	752.2	66.0	18.9	78	N	7	3	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.52	749.9	29.76	755.8	69.6	20.9	48	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.76	756.0	29.78	756.4	65.8	18.8	39	ENE	11	5	.....	.....	2k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.93	734.8	29.52	749.9	73.4	23.0	68	ESE	7	3	.....	.....	6k;ks;	c;ok]	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.59	751.5	29.66	753.3	76.5	24.7	55	SSE	18	8	.....	.....	10n	.....	.....	.....	.....	Thunder-storm.	Kurdakof.
Kertch	29.71	754.7	29.73	755.2	78.1	25.6	80	SSE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.14	740.1	29.66	753.4	67.5	19.7	49	NW	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.43	747.4	29.61	752.2	87.8	31.0	22	S	18	8	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.79	756.7	29.81	757.2	51.6	10.9	94	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Ssellwerstow.
Tiflis	28.46	722.8	29.78	756.5	86.7	30.4	38	E	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.84	757.9	29.76	755.8	86.5	30.3	35	SW	18	8	.....	.....	1k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.12	739.6	29.57	751.1	64.2	18.2	59	NNW	11	5	.....	.....	8k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.22	742.1	29.48	748.7	63.5	17.5	72	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.47	723.1	29.37	746.1	71.2	21.8	67	E	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.53	750.1	29.74	755.5	101.8	38.8	41	NNW	7	3	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.12	714.8	29.57	751.1	89.6	32.0	51	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.09	738.9	29.55	750.5	83.7	28.7	45	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.56	750.8	29.83	757.7	88.5	31.4	49	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.45	747.9	29.69	751.5	78.6	25.9	72	NNW	11	5	.....	.....	8k	.....	.....	.....	.....	Thunder-storm.	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light rain	
Vladivostock	29.76	756.0	29.86	758.5	65.1	18.4	97	SE	20	9	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.84	758.0	29.95	760.6	75.2	24	55	SSW	2.8	1.25	.....	.....	5	.....	.....	0.012	0.31	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.86	758.4	29.91	759.8	86.4	30.2	42	E	2.5	1.12	.....	5	1	NW	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.9	.....	.....	80.6	27.0	40	S	5.1	2.28	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.76	705.1	29.83	757.6	91.0	32.8	24	SW	8.2	3.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	761.0	89.6	32.0	47	ENE	4.9	2.19	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.06	738.0	29.94	760.4	61.3	16.3	94	SW	11.9	5.3	.....	.....	10	.....	.....	0.083	2.1	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.2	30.03	762.9	83.5	28.6	78	ENE	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.7	29.85	758.1	80.8	27.1	85	E	2.2	1.0	.....	.....	2s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.0	75.7	24.3	66	WNW	8.5	3.8	.....	0	1	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	83.5	28.6	79	SE	5.0	2.25	.....	4ks	3k	SE	SE	0.128	3.25	Cloudy	Leonardo de Tejada, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—	Inches.	Millimeters.		
Haparanda	29.82	757.4	29.86	758.4	67.3	19.6	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.80	756.8	29.85	758.1	66.2	19.0	51	S	.....	.....	4	.....	5	.....	.....	0	0	.....	
Hernosand	29.76	755.9	29.81	757.2	72.0	22.2	55	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.60	751.8	29.78	756.3	67.1	19.5	66	NE	.....	.....	6	.....	8	.....	.....	0	0.	.....	
Wisby	29.61	752.2	29.67	753.7	69.1	20.6	58	SE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.2	29.74	755.4	70.2	21.2	62	ESE	9.4	4.2	.....	c	7	Calm	E	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 48° 03', W. 8° 29'	.....	.....	29.72	754.9	62.8	17.1	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.8	29.08	761.4	63.0	17.2	59	N	.....	.....	2	.....	7	.....	.....	(0.091)	2.3	Vapory	The Observatory.
Zurich	28.39	721.2	30.00	762.1	62.2	16.8	83	SE	.....	.....	2	.....	5	.....	.....	0.071	1.8	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer,—5.4 Cent.; Relative Humidity, —3 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.07	738.7	86.4	30.2	39	SSW	6.7	3.0	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....
Valona	.....	.....	30.00	761.9	82.8	28.2	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.6	91.2	32.9	56	WSW	.....	.....	3	.....	2k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.64	752.8	29.74	754.6	64	17.8	88	NW	6	2.7	.....	.....	10n	.....	NW	0.03	0.8	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.61	752.1	29.65	753.1	64	17.8	94	Calm	0	0	.....	.....	10n	.....	.....	0.315	8.00	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.70	754.4	74.7	23.7	65	W	.....	.....	3	2cs	8s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.54	750.3	29.70	754.4	62	16.7	85	W	.....	.....	1	0	5s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.66	753.4	29.68	753.9	56	13.3	90	NE	13	5.8	.....	2k	2ks	NW	Calm	0.02	0.5	Fair	J. McWilliams.
Fredericton, N. B	29.63	752.6	29.69	754.1	71.1	21.7	68	NW	3	1.3	.....	.....	10s	.....	.....	0.04	1.0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.37	746.0	30.18	766.6	59	15.0	76	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.82	732.0	29.87	758.7	70	21.1	80	NW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.59	751.6	29.70	754.4	64	17.8	94	W	4	1.8	.....	.....	10ks	.....	W	0.038	0.96	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.88	758.9	75.9	24.4	86	SW	.....	.....	1	0c	0	.....	.....	0	0	Clearing	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.80	756.9	71	21.7	85	W	6	2.7	.....	8cs	0	Calm	.....	0.10	2.5	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.63	752.6	29.67	753.6	56.5	13.6	98	S	4	1.8	.....	.....	10n	.....	.....	0.24	6.1	Raining	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.50	749.3	29.69	754.1	72	22.2	81	SW	14	6.3	.....	2cs	0	.....	.....	0.52	13.2	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.17	740.9	29.83	757.7	72	22.2	75	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.11	739.4	29.83	757.7	70.2	21.2	78	SW	.....	.....	2	.....	10ks	.....	.....	1.14	29.0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.87	758.7	74	23.3	95	S	5	2.2	.....	10ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.61	752.1	29.66	753.4	60.5	15.8	.....	SE	4	1.8	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.27	743.4	29.88	758.9	76	24.4	91	W	3	1.3	.....	2k	8ks	W	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.42	747.3	29.73	755.1	62	16.7	94	NE	.....	.....	3	.....	10n	.....	NE	0.52	13.2	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.33	745.0	29.76	755.9	69	20.6	65	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.64	752.8	29.69	754.1	66	18.9	89	Calm	.....	.....	0	0	10n	.....	.....	0.38	9.7	Cloudy	Dr. Gove.
St. John, N. B	29.53	750.0	29.69	754.1	60	15.6	94	S	1	0.4	.....	.....	Fog	.....	.....	0.15	3.8	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.20	741.7	29.88	758.9	68	20.0	88	NW	3	1.3	.....	.....	8ks	.....	.....	0.30	7.6	Cloudy	K. Stewart.
Stayner, Ontario	29.08	738.6	29.83	757.7	70	21.1	70	N	1	0.4	.....	8k	0	W	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.66	727.7	29.88	758.9	67.8	19.9	78	NW	3	1.3	.....	.....	10s	.....	.....	0.169	4.04	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	753.6	29.71	754.6	56	13.3	96	Calm	0	0	.....	.....	10n	.....	NW	0.17	4.6	Heavy rain	T. C. Hill.
*Toronto, Ontario	29.51	749.5	29.87	758.7	72	22.2	80	NW	7	3.1	.....	8ck	2s	W	W	0.02	0.5	Cloudy	Magnetic Observatory.
Windsor, N. S	29.63	752.6	29.72	754.9	65.5	18.6	92	N	3	1.3	.....	.....	10n;k	.....	.....	0.05	1.3	Overcast	Prof. John E. Oram.
Woodstock	28.85	732.8	29.86	758.4	73.4	23.0	81	W	1	0.4	.....	0	9ks	.....	W	0	0	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.53	750.0	29.77	756.1	62.0	16.7	69	W	.....	.....	.....	0	0	.....	.....	0.16	4.1	Fair?	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.62	752.3	29.83	757.7	79	26.1	74	S	1	0.4	.....	8cs	Sm'e	W	.....	Inap.	Inap.	Fair	
Alpena, Michigan	29.28	743.7	29.89	759.2	70	21.1	61	W	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	46	7.8	100	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Clear	
Atlanta, Georgia	28.96	735.6	30.05	763.3	80	26.7	70	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.92	760.0	29.93	760.2	73	22.8	81	SW	6	2.7	.....	0	10s	.....	Calm	0.05	1.3	Cloudy	
Augusta, Georgia	29.89	759.2	30.08	764.0	76	24.4	91	S	2	0.9	.....	.....	.....	Calm	Calm	Inap.	Inap.	Smoky	
Baltimore, Maryland	29.91	759.7	29.96	761.0	84	28.9	64	SW	6	2.7	.....	Haze	Sm'e	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	29.89	759.2	29.91	759.7	81	27.2	70	W	8	3.6	.....	8c;hz	Haze	Calm	Calm	0	0	Hazy	
Bismarck, Dakota	28.32	719.3	30.17	766.3	61	16.1	77	E	7	3.1	.....	1cs	0	Calm	.....	0	0	Clear	
Boerne, Texas	28.59	726.2	29.65	758.2	77	25.0	77	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Boise City, Idaho	27.20	690.9	30.16	766.1	58	14.4	53	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.64	752.8	29.78	756.4	84	28.9	57	SW	12	5.4	.....	1ck	0	W	.....	0	0	Clear	
Brackettville, Texas	28.88	733.6	29.86	758.4	80	26.7	70	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.16	740.7	30.14	765.5	61	16.1	88	Calm	0	0	.....	3c;k	0	sW;Calm	.....	0	0	Clear	
Brownsville, Texas	29.94	760.5	29.98	761 5	83	28.3	75	SE	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.18	741.1	29.84	757.9	76	24.4	86	SW	8	3.6	.....	5cs	Haze	SW	Calm	0.01	0.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	29	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.47	748.5	29.74	755.4	78	25.6	57	SW	12	5.4	.....	2ck	5ks	W	W	0.31	7.9	Fair	
Cairo, Illinois	29.64	752.8	30.00	762.0	86	30.0	72	S	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Campo, California	27.40	696.0	29.96	761.0	46	7.8	84	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	79	26.1	87	SW	10	4.5	.....	2cs	Haze	Calm	.....	0	0	Hazy	
Cape Henry, Virginia	29.97	761.2	29.98	761.5	80	26.7	70	SW	12	5.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.04	763.0	30.05	763 3	80	26.7	82	W	10	4.5	.....	5k	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.92	760.0	29.94	760.5	73	22.8	51	S	8	3.6	.....	0	Fog	.....	.....	0	0	Clear	
Castroville, Texas	29.24	742.7	29.91	759.7	80	26.7	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.01	762.2	30.06	763.5	80	26.7	82	S	1	0.4	.....	5k	0	SE	.....	0	0	Fair	
Charlotte, North Carolina	29.23	742.4	30.00	762.0	81	27.2	70	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.28	743.7	29.04	763 0	80	26.7	74	Calm	0	0	.....	1cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	62	16.7	67	SW	1	0.4	.....	Haze	8s	.....	SW	0	0	Cloudy	
Chicago, Illinois	29.29	744.0	29.94	760.5	75	23.9	68	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.35	746.2	29.99	761.7	78	25.6	73	SE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.23	742.4	29.91	759.7	81	27.2	70	S	9	4.0	.....	2ck	Sm'e	SW	Calm	0	0	Fair	
Coleman City, Texas	28.21	716.5	29.79	756.7	79	26.1	70	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.16	740.7	29.94	760.5	85	29.4	61	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Concho, Texas	28.12	714.2	29.71	754.6	80	26.7	74	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	29.99	761.7	82	27.8	63	S	6	2.7	.....	1cs	1ks	Calm	Calm	0	0	Clear	
Davenport, Iowa	29.39	746.5	30.00	762.0	72	22.2	76	N	10	4.5	.....	5cs	0	N	.....	0	0	Fair	
Deadwood, Dakota	25.42	645.7	.....	.....	61	16.1	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.85	732.8	29.95	760.7	84	28.9	64	S	5	2.2	.....	0	5ks	.....	S	0	0	Cloudy	
Denison, Texas	29.17	740.9	29.92	760.0	82	27.8	67	S	6	2.7	.....	0	8ks	.....	Calm	0	0	Threatening	
Denver, Colorado	24.89	632.2	30.11	764.8	63	17.2	78	NW	2	0.9	.....	0	2s	.....	Calm	0.10	2.5	Fair	
Des Moines, Iowa	29.19	741.4	30.04	763.0	68	20.0	74	NE	5	2.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Detroit, Michigan	29.25	742.9	29.88	758.9	78	25.6	78	W	6	2.7	.....	8cs	0	W	.....	0	0	Fair	
Dodge City, Kansas	27.45	697.2	29.62	752.3	74	23.3	90	NE	8	3.6	.....	2k	1ks	Calm	NE	0	0	Fair	
Dubuque, Iowa	29.33	745.0	30.00	762.0	71	21.7	71	NW	3	1.3	.....	1c	Haze	NW	Calm	0	0	Fair	
Duluth, Minnesota	29.38	746.2	30.03	762.7	64	17.8	68	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texa	29.21	741.9	29.90	759.4	82	27.8	67	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.63	752.6	29.69	754.1	65	18.3	89	S	4	1.8	.....	5ck	Fog	W	Calm	0.40	10.2	Fair	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	91	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.31	668.3	.....	.....	71	21.7	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.20	741.7	29.86	758.4	83	28.3	67	SW	6	2.7	.....	2ck	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.33	745.0	29.96	761.0	67	19.4	60	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.42	721.9	30.02	762.5	78	25.6	29	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.00	711.2	.....	.....	64	17.8	62	SE	16	7.2	.....	8cs	0	SE	.....	0	0	Cloudy	
Fort Davis, Texas	25.29	642.4	30.25	768.3	66	18.9	64	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.41	747.0	29.91	759.7	83	28.3	64	SE	4	1.8	.....	1c	0	S	.....	0	0	Clear	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	75	23.9	52	N	4	1.8	.....	2cs	0	Calm	.....	0.27	6.9	Clear	
Fort Griffin, Texas	28.74	730.0	29.95	760.7	78	25.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.31	693.7	.....	.....	72	22.2	67	S	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.79	705.8	29.62	752.3	77	25.0	69	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.79	756.7	81	27.2	63	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.31	719.1	.....	.....	62	16.7	71	E	6	2.7	.....	4ck	0	E	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	70	21.1	48	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.80	718.8	29.80	756.9	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.01	762.2	30.05	763.3	84	28.8	79	SW	2	0.9	.....	5c;k	Haze	W;SW	Calm	0	0	Fair	
Graham, Texas	28.90	734.0	29.90	759.4	80	26.7	59	Calm	0	0	.....	0	1s	.....	Calm	0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.91	759.7	80	26.7	74	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.91	759.7	78	25.6	65	SE	4	1.8	.....	0	2s	.....	E	0	0	Fair	
Indianapolis, Indiana	29.21	741.9	29.94	760.5	79.6	26.4	70	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Clear	
Indianola, Texas	30.02	762.5	30.05	763.3	84	28.9	75	S	5	2.2	.....	1c	0	Calm	.....	0	0	Fair	
Jacksboro, Texas	28.85	732.8	29.91	759.7	85	29.4	61	SW	9	4.0	.....	0	5s	.....	SW	0	0	Fair	
Jacksonville, Florida	30.07	763.8	30.09	764.3	80	26.7	82	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Keokuk, Iowa	29.34	745.2	29.91	759.7	81	27.2	78	N	5	2.2	.....	2c	Sm'e	Calm	Calm	0	0	Smoky	
Key West, Florida	30.04	763.0	30.08	764.0	84	28.9	71	SE	10	4.5	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.98	761.5	30.01	762.2	79	26.1	66	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.10	739.1	30.05	763.3	80	26.7	62	E	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.30	744.2	30.01	762.2	68	20.0	74	N	2	0.9	.....	2c	0	NW	.....	0	0	Clear	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	71	21.7	58	Calm	0	0	.....	0	2ks	.....	SE	0	0	Clear	
Laredo, Texas	29.59	751.6	29.92	760.0	82	27.8	52	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.15	740.4	29.94	760 5	76	24.4	86	N	8	3.6	.....	10cs	0	N	.....	0	0	Cloudy	
Little Rock, Arkansas	29.67	753.6	30.01	762.2	79	26.1	82	SE	3	1.3	.....	1c	2ks	Calm	Calm	0.19	4.8	Fair	
Los Angeles, California	29.57	751.1	29.90	759.4	58 0	14.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.45	748.0	29.98	761.5	78	25.6	73	SE	2	0.9	.....	5ck	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.34	745.2	29.98	761.5	85	29.4	56	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.02	737.1	29.97	761.2	68	20.0	79	N	13	5.8	.....	1c	0	NW	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	29.93	760.2	65	18.3	63	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.40	721.3	30.07	763.8	81	27.2	67	SW	4	1.8	.....	Haze	0	Calm	.....	0	0	Hazy	
Memphis, Tennessee	29.70	754.4	30.02	762.5	80	26.7	78	S	6	2.7	.....	5k	0	S	.....	Inap.	Inap.	Fair	
Milwaukee, Wisconsin	29.24	742.7	29.94	760.5	71	21.7	71	NW	8	3.6	.....	1c	0	Calm	.....	0	0	Clear	
Mobile, Alabama	30.02	762.5	30.06	763.5	80	26 7	91	NW	3	1.3	.....	.....	10s;ks	.....	NW	0.02	0.5	Threatening	
Montgomery, Alabama	29.86	758.4	30.09	764.3	76	24.4	90	SW	3	1.3	.....	5k	2ks	W	W	0.12	3.0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.03	737.3	29.96	761.0	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.70	602.0	30.06	763.5	52	11.1	100	NW	55	24.6	.....	.....	Fog	.....	NW	0.15	3.8	Foggy.....	
Nashville, Tennessee.....	29.50	749.3	30.01	762.2	85	29.4	61	SE	1	0.4	.....	1c	0	Calm	.....	0	0	Clear.....	
New Haven, Connecticut....	29.75	755.6	29.85	758.2	87	30.6	60	SW	2	0.9	.....	2c	Haze	Calm	Calm	0	0	Clear.....	
New London, Connecticut...	29.80	756.9	29.84	757.9	84	28.9	64	W	6	2.7	.....	1ck	Haze	NW	Calm	0	0	Hazy.....	
New Orleans, Louisiana....	30.00	762.0	30.06	763.5	83	28.3	79	W	6	2.7	.....	1c	2s	Calm	Calm	0	0	Fair.....	
Newport, Rhode Island.....	29.79	756.7	29.83	757.7	73	22.8	81	SW	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
New York, New York.....	29.73	755.1	29.89	759.2	79	26.1	73	SW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Norfolk, Virginia.....	29.94	760.5	29.99	761.7	84	28.9	63	W	3	1.3	.....	0	Haze	.....	.....	0	0	Clear.....	
North Platte, Nebraska.....	27.19	690.6	29.08	738.9	65	18.3	94	E	12	5.4	.....	.....	10n	.....	E	1.36	34.5	Light rain...	
Olympia, Washington Ter..	30.14	765.5	30.18	766.6	44.5	6.9	96	SW	3	1.3	.....	1cs	0	Calm	.....	0.16	4.1	Fair.....	
Omaha, Nebraska.....	28.99	736.3	30.05	763.3	68	20.0	79	NW	8	3.6	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy.....	
Oswego, New York.....	29.64	750.3	29.84	757.9	76	24.4	86	W	7	3.1	.....	8c	0	W	.....	0	0	Fair.....	
Pembina, Dakota.....	29.28	743.7	30.10	764.5	53	11.7	93	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.86	758.4	29.91	759.7	80	26.7	74	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.65	727.7	30.33	770.4	84	28.9	54	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	18.09	459.5	30.30	769.6	36	2.2	45	W	22	9.8	.....	2k	2s	W	Calm	0.41	10.4	Fair.....	
Pilot Point, Texas.....	29.12	739.6	29.91	759.7	89	31.7	41	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada.....	.....	.....	.....	.....	61	16.1	17	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania....	29.18	741.1	29.94	760.5	78	25.6	73	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.26	742.9	29.88	758.9	70	21.1	70	N	10	4.5	.....	.....	10ks	.....	N	0	0	Cloudy.....	
Portland, Maine.....	29.67	753.6	29.72	754.9	75	23.9	77	W	8	3.6	.....	1k	0	Calm	.....	0.13	3.3	Clear.....	
Portland, Oregon.....	30.12	765.0	30.19	766.8	50.5	10.3	93	Calm	0	0	.....	1c	0	W	.....	0.05	1.3	Clear.....	
Prescott, Arizona.....	24.83	630.7	30.19	766.8	60	15.6	60	W	.....	.....	1	0	0	.....	.....	Inap	Inap.	Clear.....	
Punta Rassa, Florida.....	30.07	763.8	30.09	764.3	82	27.8	75	NE	7	3.1	.....	5c	0	W	.....	0	0	Fair.....	
Red Bluff, California.....	29.59	751.6	29.94	760.5	69	20.6	48	N	4	1.8	.....	1k	0	SW	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.80	756.9	29.99	761.7	79	26.1	82	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.26	743.2	29.83	757.7	79	26.1	74	W	10	4.5	.....	5k	0	W	.....	Inap.	Inap.	Fair.....	
*Roseburg, Oregon.....	29.68	753.8	30.16	766.1	50	10.0	93	Calm	0	0	.....	5ck	0	SW	.....	0	0	Fair.....	
Sacramento, California.....	29.84	757.9	29.92	760.0	60	15.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.40	746.7	29.94	760.5	82	27.8	75	S	1	0.4	.....	0	Sm'o	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.08	764.0	30.10	764.5	77	25.0	95	N	1	0.4	.....	1ck	8s	SE	SE	0	0	Cloudy.....	
St. Paul, Minnesota.....	29.24	742.7	30.04	763.0	66	18.9	68	NW	6	2.7	.....	2c	0	NW	.....	0	0	Fair.....	
Salt Lake City, Utah.....	25.65	651.5	29.98	761.5	73	22.8	31	N	4	1.8	.....	1k	0	Calm	.....	0	0	Clear.....	
San Antonio, Texas.....	29.33	745.0	29.89	759.2	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.86	758.4	29.93	760.2	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.28	743.7	29.91	759.7	50	26.7	70	SW	9	4.0	.....	10ck	0	W	.....	0	0	Cloudy.....	
Sandy Hook, New Jersey....	29.87	758.7	29.90	759.4	88	28.3	67	W	11	4.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
San Francisco, California..	29.89	759.2	29.95	760.7	54	12.2	87	SW	4	1.8	.....	2c	0	NW	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.46	595.9	30.00	762.0	64	17.8	48	E	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	30.00	762.0	30.09	764.3	81	27.2	78	SW	3	1.3	.....	.....	10s	.....	SW	0.46	11.7	Cloudy.....	
Shreveport, Louisiana.....	29.78	756.4	29.99	761.7	79	26.1	82	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.06	763.5	30.10	764.5	78	25.6	91	W	4	1.8	.....	0	2ks	.....	W	0	0	Fair.....	
Socorro, New Mexico.....	25.51	647.9	29.57	751.1	75	23.9	48	Calm	0	0	.....	5ck	2s	S	Calm	0	0	Cloudy.....	
Springfield, Ill.....	29.33	745.0	29.97	761.2	82	27.8	71	W	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Clear.....	
Springfield, Massachusetts	29.71	754.6	29.83	757.7	84	28.9	71	S	3	1.3	.....	0	8ks	.....	NW	0	0	Cloudy.....	
Stockton, Texas.....	27.02	686.3	30.02	762.5	76	24.4	2	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.76	755.9	29.81	757.2	69	20.6	60	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.26	743.2	29.90	759.4	82	27.8	75	W	6	2.7	.....	2c	Sm'o	W	.....	0	0	Fair.....	
Tucson, Arizona.....	27.47	697.7	30.02	762.5	80	26.7	68	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair.....	
Umatilla, Oregon.....	29.53	757.7	30.33	770.4	51.5	10.8	76	S	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Uvalde, Texas.....	29.07	738.4	29.85	758.2	80	26.7	70	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.74	755.4	29.99	761.7	80	26.7	56	NW	4	1.8	.....	0	0	.....	.....	0.10	2.5	Clear.....	
Virginia City, Montana.....	24.34	618.2	29.82	757.4	56	13.3	57	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.54	750.3	29.90	759.4	61	16.1	66	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.86	758.4	29.96	761.0	82	27.8	71	SW	1	0.4	.....	5c	Haze	W	Calm	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	75	23.9	56	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina....	30.00	762.0	30.07	763.8	77	25.0	88	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.71	653.0	30.07	763.8	49	9.4	44	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.79	756.7	29.82	757.4	73	22.8	85	W	22	9.8	.....	Haze	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.84	732.5	30.09	764.3	66	18.9	84	Calm	0	0	.....	10k	0	SW	.....	0.71	18.0	Cloudy.....	
Yuma, Arizona.....	29.65	753.1	29.81	757.2	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.27	641.8	.....	.....	63.5	17.5	87	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.88	22.4	.....	Taomas Herran.
Navassa, W. I.....	29.90	759.4	29.98	761.5	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Coleman
Paramaribo, D. Guiana, S.A	30.03	762.7	30.03	762.7	82	27.8	79	NE	.....	.....	2	0	5k	.....	.....	0	0	Cloudy.....	F. M. Everett.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	O. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Grimes, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,500 (?) ft., or 549 (?) m.; Medellin, 4,555 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,551 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m., Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 66.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	80	26.7	96	NW	10	4.5	.....	.....	10	.....	NW	0.70	17.8	.....	.....	Stormy.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital. Yokohama, Japan.....	29.94‡	760.5‡	.....	.....	76	24.4	88	SW	.....	.....	3	.....	9ks	.....	SW	0	0	.....	.....	Cloudy.....	
Adams. N. 32° 53′, W. 118° 50′....	29.95‡	760.7‡	.....	.....	61	16.1	94	NW	.....	.....	3	.....	10	.....	NW	.....	.....	Rough	NW	Cloudy.....	
Alliance. Antwerp, Belgium.....	29.95‡	760.7‡	.....	.....	62	16.7	77	NW	.....	.....	2	.....	5?	.....	NW	.....	.....	.....	N	Overcast?...	
Ashuelot, Yokohama, Japan	29.93‡	760.2‡	.....	.....	76	24.4	91	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	.....	Showery.....	
Colorado. New York, N. Y.....	29.90‡	759.4‡	.....	.....	81	27.2	70	SW	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, Portland, Maine.....	29.73‡	755.1‡	.....	.....	71.5	21 9	80	W	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Constitution, League Isl. Navy Yard, Pa.	29.94‡	760.5‡	.....	.....	79	26.1	78	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Enterprise, Cronstadt, Russia.....	29.80‡	756.9‡	.....	.....	66	18.9	54	NNE	.....	.....	3	.....	1	.....	N	0	0	.....	.....	Clear.....	
Franklin. Norfolk, Va.....	30.00‡	762.0‡	.....	.....	80	26.7	62	WSW	4.8	2.1	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Hartford. Montevideo, Uruguay....	30.35‡	770.9‡	.....	.....	50	10.0	58	S	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mare I'd. Navy Yard, Cal.	29.94‡	760.5‡	.....	.....	64	17.8	100	W	5	2.2	.....	.....	5?	.....	SW	.....	.....	.....	.....	Clear?.....	
Kearsarge, N. 46° 28′ W. 49° 13′.....	29.72‡	754.9‡	.....	.....	53	11.7	93	W	.....	.....	3	.....	10	.....	W	.....	.....	Long	W	Foggy	
Michigan, Erie, Pa.....	29.93‡	760.2‡	.....	.....	82	27.8	71	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Monocacy. Shanghai, China.....	29.68‡	753.9‡	.....	.....	88	31.1	87	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongahela, Yokohama, Japan.....	29.96‡	761.0‡	.....	.....	78	25.6	86	SW	.....	.....	2-3	.....	k	.....	.....	0	0	.....	.....	Hazy.....	
New Hampshire. Port Royal, S. C.....	30.06‡	763.5‡	.....	.....	80	26.7	87	W	8	3.6	.....	.....	8	.....	Var.	0.01	0.3	.....	.....	Fair.....	
Onward, Callao, Peru.....†	30.02‡	762.5‡	.....	.....	60	15.6	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	NW	Foggy	
Palos, Shanghai, China.....	29.70‡	754.4‡	.....	.....	84	28.9	83	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	81	27.2	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	30.06‡	763.5‡	.....	.....	60	15.6	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Portsmouth. Boston, Mass.....	29.79‡	756.7‡	.....	.....	78	25.6	65	SW	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Clear.....	
Powhattan, Portland, Me.....	29.90‡	759.4‡	.....	.....	74	23.3	76	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, Constantinople, Turkey	29.66‡	753.4‡	.....	.....	77	25.0	69	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Hong-Kong, China.....	.....	.....	.....	.....	86	30.0	96	SW	.....	.....	1	.....	5?	.....	Calm	.....	.....	Smooth	Calm	Clear?.....	
Richmond, Yokohama, Japan.....	29.96‡	761.0‡	.....	.....	77	25.0	86	SW	.....	.....	2	.....	10	.....	SW	0	0	Smooth	SW	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.99‡	761.7‡	.....	.....	81	27.2	96	SE	.....	.....	1	.....	2	.....	S	0	0	.....	.....	Fair.....	
Saranac, Annapolis, Md.....	29.97‡	761.2‡	.....	.....	82	27.8	75	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....	Hazy.....	
Saratoga, Navy Point, North river, N.Y	29.87‡	758.7‡	.....	.....	84	28.9	91	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
St. Louis, League Island, Pa.....	29.95‡	760.7‡	.....	.....	79	26.1	86	SW	9	4.0	.....	.....	2	.....	SSW	0	0	.....	.....	Clear.....	
Trenton, Flushing, Netherlands...	29.95‡	760.7‡	.....	.....	65	18.3	89	NNW	.....	.....	1-2	.....	5	.....	S;W	0	0	Smooth	.....	Fair.....	
Tuscarora, Mare Island Navy Yard, Cal	29.95‡	760.7‡	.....	.....	65	18.3	94	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia, New London, Conn.....	29.85‡	758.2‡	.....	.....	77	25.0	86	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	29.77‡	756.1‡	.....	.....	83	28.3	69	WSW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, Fiume, Austria.....	29.85‡	758.2‡	.....	.....	75	23.9	56	S	.....	.....	3	.....	2	.....	S	.....	.....	Smooth	S	Fair.....	
Wachusett, New Orleans, La	30.06‡	763.5‡	.....	.....	82	27.8	87	W	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections are applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 15° 28′, W. 96° 04′...†		29.98‡	761.6‡	80	26.7	96	NW			1		7		W	0.60 in. or 20.3mm	Mod'ate	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 17° 48′, W. 159° 26′		29.87‡	758.7‡				E			1		1		SE		Mod'ate	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			
S.S. Gaelic, Capt. Davidson. N. 35° 35′, E. 141° 23′...†		30.09‡	764.8‡	78	25.6	95	SSW			4		ks		SW	0	Mod'ate	W	D. clouds	D. A. Joyce, 2nd Officer
S. S. Oceanic, Capt. J. Metcalf,																			J. A. Thompson, C. O. J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 42° 36′, W. 58° 41′		29.83‡	757.7‡	63.5	17.5	100	Calm			0		10			5 h'rs	Smooth	W	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 52′, E. 7° 55′		29.88‡	758.9‡				NW			5		8		W		8	NW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng.		29.88‡	758.9‡	64	17.8	83	SE			3		3		SE	0			Cloudy?	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 46° 45', W. 38° 45'		29.70‡	754.4‡				WSW	16	7.2			5		W		Mod'ate	W	Misty	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 06', W. 79° 39'		30.13‡	765.3‡	84	28.9	75	SE	4	1.8		2c	2k			0.03 in. or 0.8 mm	Short		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 24° 44', W. 68° 58'	†	30.21‡	767.3‡				ESE			4		2		ESE	0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Mogador, Marocco	.....	.....	29.97	761.3	68.0	20.0	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.92	759.9	84.9	29.4	64	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.89	759.1	83.8	28.8	56	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.93	760.3	75.0	23.9	91	NE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.05	763.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gâu.
Saida	.....	.....	29.93	760.3	93.2	34.0	20	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.95	760.8	95.7	35.4	16	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	29.98	761.5	77.7	25.4	42	NW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	29.89	759.1	97.2	36.2	30	E	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.91	759.7	97.7	36.5	15	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Agram	29.27	743.5	29.79	756.7	77.5	25.3	38	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29 98	736.2	29.73	755.2	63.0	17.2	80	W	10.3	4.6	.....	.....	5	.....	.....	0.059	1.5	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.87	733.2	29.71	754 7	66.7	19.3	74	S	.....	.....	1	.....	9ks;cs	.....	E	0.408	10.35	.....	Julius Mikolik.
Gratz	28.65	727.6	29.87	758.8	62.6	17.0	60	S	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.41	721.6	29.78	756.5	69.4	20.8	78	WNW	.....	.....	3	.....	5	.....	.....	6	0	.....	Prof. A. Gottschling.
Kremsmünster	28.52	724.4	29.81	757.2	68.2	20.1	57	WNW	.....	.....	2	.....	6	.....	.....	0.126	3.2	.....	Prof. C. Wagner.
Lemberg	28.67	728.1	29.62	752.3	65.5	18.6	66	NW	.....	.....	3	.....	8	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.76	755.9	29.87	758.6	80.4	26.9	42	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.33	744.9	29.78	756.3	70.9	21.6	60	SW	.....	.....	3	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.52	749.9	29.79	756.7	73.4	23.0	56	N	.....	.....	3	.....	7	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.78	756.4	29.88	759.0	79.2	26.2	42	NNE	.....	.....	1	.....	7	.....	.....	0	0	.....	P. Busin.
Vienna	29.13	740.0	29.88	759.0	65.8	18.8	72	W	.....	.....	2	.....	7	.....	.....	0.039	1.0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.86	758.4	29.96	761.0	56.2	13.4	.....	S	14	6.3	.....	.....	3	.....	.....	0.005	0.13	Blue sky	W. Boswell.
Ardrossan	29.90	759.4	29.92	760.0	58	14.4	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	Misty	Wm. McNeil & G. Carrick
Armagh, Observatory	29.72	754.9	29.94	760.5	56.2	13.4	.....	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.87	758.7	64.6	18.1	.....	E	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.87	758.7	60.8	16.0	.....	E	12	5.4	.....	.....	8	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.54	750.3	29.93	760.2	55.7	13.2	.....	E	.....	.....	1	.....	10	.....	.....	0.07	1.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	84	28.6	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.76	755.9	29.86	758.4	62.0	16.7	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	H. Todd.
Cardington	.....	.....	29.84	757.9	62.0	16.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.72	754.9	29.85	758.2	60.1	15.6	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Drizzling	J. Carmell, Sapper R. E.
Donaghadee	29.91	759.7	29.96	760.7	57	13.9	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.81	757.2	29.84	757.9	61	16.1	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth, Observatory	29.61	752.1	29.83	757.7	61.7	16.5	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.90	708.6	30.18	766.6	51.6	10.9	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	80	26.7	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.89	759.2	58	14.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.82	757.4	29.87	758.7	76.4	24.7	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.72	754.9	29.93	760.2	59.0	15.0	.....	NNE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	D. G. Maclean. 1C.
Great Yarmouth	29.88	758.9	29.89	759.2	60	15.6	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.68	753.9	29.85	758.2	61.1	16.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.69	754.6	29.81	757.2	59	15.0	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	Dr. S. E. Hoskins, F.R.S.
Helston	29.76	755.9	29.85	758.9	65	18.3	.....	N	.....	.....	1	.....	4k	.....	.....	0.51	13.0	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.85	758.9	63	17.2	.....	NW	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds	John Tilston.
Jersey	29.55	750.6	29.84	757.9	61.5	16.4	.....	NW	.....	.....	1	.....	7	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.81	757.2	29.85	758.2	61.6	16.4	.....	E	15	6.7	.....	.....	.....	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.65	752.6	29.88	758.9	62.3	16.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.83	757.7	29.90	759.4	75.4	24.1	.....	NW	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.84	757.9	29.93	760.2	59	15.0	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.07	763.8	85.8	29.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.72	754.9	29.90	759.4	63.3	17.4	.....	NNE	.....	.....	2	.....	10kd	.....	.....	0.052	1.32	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.35	745.5	29.86	758.4	65.7	18.4	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.86	758.4	62	16.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.73	755.1	29.80	756.9	62.6	17.0	.....	ENE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.85	758.2	29.96	761.0	59	15.0	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.69	754.1	29.84	757.9	62	16.7	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.97	761.2	58.2	14.6	.....	SE	7	3.1	.....	.....	10	.....	.....	.....	.....	Cloudy	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	86.8	30.4	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.64	752.8	29.92	760.0	61.8	16.3	.....	NE	.....	.....	1	.....	8	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.89	759.2	29.92	760.0	59.7	15.4	82	Calm	.....	.....	0	.....	9	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.91	759.7	62.3	16.8	.....	ENE	9	4.0	.....	.....	9	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.63	752.6	29.85	758.2	63.6	17.6	.....	SE	.....	.....	1–2	.....	10	.....	.....	.....	.....	Raining	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.83	757.7	29.85	758.2	62	16.7	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.92	760.0	29.95	760.7	59.7	15.4	.....	NNW	15	6.7	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.10	764.5	30.14	765.5	65.0	18.3	.....	S	10.8	4.8	.....	1	3	.....	.....	0	0	Fair	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.08	764.0	48	8.9	93	NW	.....	.....	1	.....	10kn	.....	.....	0.01	0.3	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.96	761.0	55.9	13.3	.....	E	.....	.....	2	.....	10s	.....	.....	0	0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.2	72.0	22.2	67	ESE	12.5	5.6	.....	1	2	.....	ESE	0.09	2.3	Fine	C. Meldrum.
Melbourne, Observatory	30.23	767.8	30.33	770.4	51.7	10.9	87	NW	6	2.7	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 35'. E. 28° 30'	.....	.....	29.75‡	756.4‡	77	25.0	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
Algeria, N. 51° 15', W. 17° 25'	.....	.....	30.06	763.5	58	14.4	.....	S	.....	.....	1	.....	10	.....	.....	2	N	Overcast	Capt. Wm. Watson
Agnes Wilson, N. 42° 05', W. 47° 55'	.....	.....	29.83	757.7	66	18.9	.....	SW	.....	.....	3	.....	10	.....	.....	3	WSW	Foggy	Capt. H. W. Dyke.
Astarte, N. 51° 25', W. 22° 30'	.....	.....	29.95‡	760.7‡	58.8	14.9	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Capt. Parson.
Barque Commewyne, N. 16° 38', W. 57° 05'	.....	.....	30.08	764.0	82.8	28.2	.....	ENE	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Capt. A. Buchan.
Theophane, S. 18° 55', W. 5° 30'	.....	.....	30.27‡	768.8‡	68.5	20.3	.....	ESE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.26	667.0	29.98	761.5	65.3	18.5	95	SE			2	6ks	3s			1.8	46.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.84	757.8	29.88	759.0	65.1	18.4	69	NE			2		2						
Fanöe	29.87	758.7	29.89	759.2	64.0	17.8	72	N			4		2						
Godthaab (Greenland)	29.78	756.5	29.83	757.6	55.9	13.3	51	NNE			2		0						
Stykkisholm (Iceland)	29.95	760.8	30.00	761.9	49.5	9.7	75	E			7		0						
Thorshavn (Faröe)	29.97	761.2	30.00	762.1	51.8	11.0	89	SE			2		10					Raining	
Vestervig	29.79	756.6	29.90	759.4	59.9	15.5	86	NW			2		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.4	29.86	758.4	61.2	16.2	96	SW			1		8		SW	0.122	3.1	Very cloudy	Collignon, Director.
Amiens, Normal School	29.73	755.1	29.84	757.8	68.0	20.0	81	S			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.59	751.6	29.84	758.0	67.6	19.8	65	S			1				SE	0.04	1.		Klein, Commandant.
Avignon, Normal School	29.87	758.6	29.95	760.6	70.5	21.4	73	NNE			1		5		WSW	0.138	3.5	Cloudy	Giraud, Dire'r.
Bar-sur-Seine	29.31	744.5	29.85	758.2	65.8	18.8	78	S			1		8kn		SW	0	0	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.57	751.0	29.82	757.5	67.5	19.7	76	SSE			1		10		SSE	0.098	2.50	Covered	Frere Eugene Marie.
Besançon, Normal School	29.08	738.5	29.04	760.5	68.7	20.4	68	S			1		8		SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.10	739.0	30.02	762.4	71.6	22	66	S			3		k	E	E	0.024	0.6		Mariot, Director.
Bourges, Normal School	29.29	743.9	29.81	757.4	69.8	21	76	SW			1		10kn	SW	SW	0.039	1.5	Raining	M. Gence, Director.
Brest, Naval Observatory	29.57	751.0	29.82	757.2	64.0	17.8	86	W			1		8		W	0.217	5.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.52	749.9	29.92	760.0	75.6	24.2	54	NW			1		10	W	W	0	0	Covered	September, Dir.
Caen, Normal School	29.74	755.4	29.81	757.2	64.8	18.2	78	NW			1				W	0.130	3.3		Lair, Director.
Chartres, Normal School	29.19	741.3	29.73	755.1	69.8	21	67	S			1		9		N	0.08	2.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.9	29.86	758.6	76.3	24.6	59	SW			2		5			0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.3	29.87	758.6	68.5	20.3	69	SW			1		8		W	0.181	4.6		Alluard, Director.
Commercy, Normal School	29.02	737.2	29.85	758.3	67.5	19.7	64	SE			3		5ckn	SE	SE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.87	733.3	30.01	762.3	67.5	19.7	58	NE			2		10		NE	0	0		L. Kina, Director.
Grenoble, Normal School	29.17	740.8	29.90	759.5	71.6	22.0	69	E			1		2ck	E		0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.67	753.6	29.88	758.9	67.3	19.6	81	W			1		8		WSW	0.220	5.6	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.54	750.3	29.84	758.0	64.4	18	84	SW			2		5		W	0.102	2.60	Cloudy	Pourrier, Director.
Lons-Le-Saulnier, N. School	29.66	753.2	29.96	761.0	71.6	22	63	SW			1		5cn		SW	0.057	1.45	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.76	756.0	29.86	758.5	64.8	18.2	77	W			3				NW	W	0.220	5.6		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.66	753.3	29.93	760.1	68.7	20.4	80	SSE			0–1		10		WSW	Inap.	Inap.	Sprinkling	E. Stephan, Director
Mirecourt, Normal School	28.84	732.4	29.88	759.0	69.8	21	60	S			1		2		S	0	0	Slightly cl'dy	Barbier, Director
Mont-Louis	24.94	633.4	30 25	768.4	64.4	18	57	E	24.2	10.8			5		N	0	0		M. Cave.
Nismes, Normal School	29.76	755.9	29.96	760.9	77.0	25	40	E			1		2		N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.54	750.4	69.3	20.7	75	SSE			1		6		S	0.083	2.1		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.56	552.9			51.3	10.7		NW			1		4			0	0	Fair	Gen'l de Nansouty.
Perpignan	29.83	757.6	29.93	760.2	72.0	22.2	67	SE	11.2	5.0			7		NW				Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.15	638.7			48.2	9.0	92	W			2					0.157	4.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.87	758.6	29.90	759.4	65.8	18.8	77	WSW			2		8	W	W	0.04	1.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.74	755.3	29.82	757.5	64.0	17.8	87	S			1		10		SE	0.035	0.9	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.77	756.2	29.80	757.0	66.0	18.9	79	NNW			2		1		NNW	0.028	0.72	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.66	753.3	29.82	757.5	68.0	20.0	74	SSE			0–1		3	SW	SSW	0.020	0.5		E. Renou, Director.
Tarbes, Normal School	28.97	735.8	30.02	762.6	66.2	19	81	WSW			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.28	744.7	30.00	762.0	70.5	21.4	63	NW			2		9		W	0.020	0.5		M. Julier Mercadier.
Tours	29.63	752.7	29.83	757.7	68.4	20.2	67	W			3		7		W	0.094	2.4		Cousin-Marquet.
Versailles, Observatory	29.33	745.0	29.82	757.5	68.7	20.4	62	SSW			1					0.147	3.73		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.20	741.7	29.89	759.2	71.4	21.9	68	SE			1		5		N	0.16	4.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	82.4	28										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.30	744.2	29.90	759.4	72.0	22.2	54	SW			1		10		WSW	0.112	2.85	Covered	Ch. André, Director.
Nice			29.94	760.4	75.2	24.0	66	SW			1		10			0	0		Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.72	754.8	29.74	755.4	83.7	28.7	87	SE	4.9	2.2			0			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de (Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.2	29.90	759.5	67.8	19.9	58	W			2		3	W		0.016	0.4	Raining	Prof. Dr. Hoh.
Berlin	29.68	753.9	29.85	758.1	68.0	20.0	64	NW			1		8			0.272	6.9		Prof. Dr. Arndt.
Breslau	29.27	743.5	29.80	756.9	60.1	15.6	92	NW			2		9			0.562	14 28	Raining	Royal University Ob's'y.
Carlsruhe	29.46	748.2	29.87	758.7	72.3	22.4	60	NE			0		10	S		0	0		Albert Senx.
Cassel	29.37	745.9	29.97	761.3	66.9	19.4	63	NNW			4		6	NW		0	0		Dr. H. Möhl.
Crefeld	29.72	754.8	29.88	758.9	74.1	23.4	36	SE			2		7k			0	0		Director Lose.
Emden			29.90	759.5	64.4	18.0	69	N			2		1			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.56	750.7	29.92	759.9	70.5	21.4		NW			2		5			0	0		Physical Society.
Freienwalde on the Oder	29.76	756.4	29.82	757.4	71.4	21.9	62	N			2		4k	N		0.846	21.5		Dr. Assmann.
Friedrichshafen	28.50	723.9	29.91	759.7	61.9	16.6	80	S			2		4	WSW		0.059	1.5		M. Wilhelm.
Hamburg	29.82	757.5	29.89	759.2	66.9	19.4	77	WSW			1		8k			0.004	0.1	Hazy	Captain F. Hegemann.
Kiel	29.87	758.6	29.88	759.0	67.8	19.9	67	NE			1		2			0.024	0.61		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.63	752.6	29.71	754.6	70.3	21.3	63	N			3		2			0.016	0.4		Prof. E Luther.
Köslin			29.77	756.2	63.5	17.5		NE			4		2			0	0		H. Müller.
Leipsic Observatory	29.49	749.0	29.90	759.5	62.1	16.7	77	NW			2		9	WNW		0.224	5.7		Prof. Bruhns, Privy Counselor.
Memel	29.67	753.7	29.72	754.9	72.5	22.5	34	NE			3		0					Clear	Skalweit.
Munich (München)	28.11	713.9	29.97	761.1	67.8	19.9	45	W			3		9	W		0.079	2.0	Hazy	Dr. C. Lang.
Neufahrwasser	29.76	756.0	29.78	756.4	65.5	18.6	82	NNW			2		7			0	0		A. Lothes.
Posen	29.52	749.7	29.80	756.8	68.0	20.0	66	W			1		7			0.004	0.1		Dr. Magener.
Strassburg (in Alsace)	29.37	745.9	29.90	759.4	69.8	21.0	65	S			1		8			0	0		Imp. University Observatory.
Stuttgart	28.95	735.2	29.85	758.2	70.3	21.3	49	W			1		10			0.016	0.4	Hazy	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.41	721.7	29.87	758.7	66.6	19.2	53	NW	1.1	0.5			8ck		NW	0	0	Light fog	T. Hopfner.
Wustrow	29.96	760.9	29.98	761.5	62.2	16.8	75	N			2		3s			0	0		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.37	746.1	29.74	755.5	89.1	31.7		SW			1.5		k					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer *reduced to freezing but not to sea-level*; *the weather as published*; *occasionally the kind of clouds*; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.4	29.59	751.7	82.2	27.9	74	SSW	25.0	11.2			6	SSW	SSW	0	0	D. clouds	
Deesa	29.18	741.3	29.65	753.0	89.1	31.7	48	SSW	19.5	8.7			5		WSW	0	0	D. clouds	
Bombay	29.71	754.7	29.75	755.7	84.7	29.3	74	W	11.0	4.9			4		NW	0	0	D. clouds	
Poona	27.91	709.0	29.78	756.3	75.3	24.1	76	W					6		W	0.15	3.8	D. clouds	
Lahore	28.72	729.5	29.43	747.4	99.7	37.6	39	NW	3.2	1.4			0			0.01	0.3	Blue sky	
Belgaum	27.26	692.4	29.82	757.5	69.4	20.8	92	WNW	15.0	6.7			10	W	W	0.06	1.5	D. clouds	
Roorkee	28.62	726.9	29.49	749.0	92.2	33.4	57	Calm	1.6	0.7			7			0	0		
Agra	28.99	736.3	29.54	750.2	93.1	33.9	48	SW					0			0	0		
Nagpur	28.58	725.8	29.59	751.6	92.0	33.3	41	N	3.8	1.7			5	SE		0	0	D. clouds	
Lucknow	29.14	740.2	29.51	749.5	85.2	29.6	79	WNW	1.8	0.8			10			0	0	Overcast	
Allahabad	29.28	743.8	29.59	751.6	87.1	30.6	74	Calm	2.4	1.1			8			0	0	D. clouds	
Patna	29.43	747.6	29.61	752.1	82.5	28.1	83	Calm	0.5	0.2			8	SE	SE	0.41	10.4	D. clouds	
Hazaribagh	27.63	701.8	29.64	752.8	75.3	24.1	88	NW	8.0	3.6			10			0.28	7.1	Thunder-storm	
Cuttack	29.51	749.5	29.59	751.6	80.5	27.1	78	W	3.0	1.3			8			0.14	3.6	D. clouds	
Calcutta (Alipore)	29.61	752.1	29.63	752.6	80.4	26.9	85	SSE	2.0	0.9			3	S	SE	0	0	D. clouds	
Goalpara	29.27	743.5	29.66	753.1	79.7	26.5	60	SSE	2.3	1.0			5	S		0.32	20.8	D. clouds	
Chittagong	29.68	761.3	29.67	753.6	80.6	27.0	83	SSW	7.8	3.5			2			0	0	Misty	
Sibsagar	29.34	745.3	29.67	753.7	83.0	28.3	83	S	1.7	0.8			8			0.06	1.5	D. clouds	
Jubbulpore	28.26	717.7	29.59	751.6	89.7	32.1	46	NW	2.7	1.2			3	N		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between *the amount of upper and lower clouds is apparently not made*. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	Corrected or instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.47	748.6	29.87	758.7	74.8	23.8	38	W	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.35	745.4	29.84	758.0	68.4	20.2	35	WSW	.....	.....	4	.....	9	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.5	29.85	758.2	77.9	25.5	53	E	8.1	3.6	.....	.....	5	W	.....	0.035	0.9	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.96	735.5	29.83	757 7	75.6	24.2	45	WNW	1.8	0.8	.....	.....	9	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.75	755.6	29.93	760.3	70.7	21.5	66	SW	8.7	3.9	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.1	29.88	759.0	74.6	23.6	46	E	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.80	756.8	29.84	758.0	77.4	25.2	58	E	15.4	6.9	.....	.....	5	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.66	753.3	29.91	759.6	77.1	25.0	46	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	758.0	29.93	760 1	71.4	21.9	57	W	39.1	17.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.74	755.5	29.91	759.8	80.8	27.1	44	W	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.1	29.89	759.3	80.6	27.0	34	NW	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.2	29.86	758.5	83.1	28.4	61	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.5	29.93	760.3	78.8	26.0	56	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.4	29.95	760.7	74.8	23.8	53	NE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.82	757.3	29.89	759.1	83.6	28.6	53	NE	6.3	2.8	.....	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.0	29.97	761.1	76.6	24.8	62	SW	10.5	4.7	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.96	761.0	76.2	24.6	92	WSW	3.1	1.4	.....	.....	10n	.....	.....	0.568	14.43	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.96	761.0	75.2	24.0	92	SSE	1.1	0.5	.....	.....	2s	.....	.....	0.680	17.27	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.93	760.2	30.00	762.0	76.9	24.9	88	SSW	12.4	5.5	.....	.....	10ks;s	.....	.....	0	0	.....	The Staff.
Wakayama	29.94	760.5	29.99	761.7	79.2	26.2	80	S	8.4	3.7	.....	.....	3s	.....	.....	0.020	0.51	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.9	30.15	765.9	66.3	13.5	77	NW	.....	.....	2	.....	4	.....	Calm	0.004	0.1	Fair	Prof. L. Perez.
Leon	24.48	621.8	30.15	765.7	61.5	16.4	78	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.1	30.10	764.6	55.9	13.3	82	NW	4.5	2.0	.....	9k	0	E	.....	0.02	0.5	Cloudy	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	59.5	15.3	76	Calm	.....	.....	0	8c	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
Tlacotalpam	29.94	760.5	29.99	761.8	75.2	24.0	91	W	.....	.....	1	3	7	S	W	1.35	34.2	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.3	30.19	766.7	62.1	16.7	77	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.59	573.8	30.15	765.9	57.7	14.3	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	J. C. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	54.0	12.2	83	Calm	0	0	.....	8ck	0	NE	.....	0	0	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.71	754.6	30.00	761.9	76.8	24.9	93	SE	.....	.....	1	1	0	.....	.....	0	0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.2	29.89	759.2	70.9	21.6	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Groningen	29.91	759.7	29.93	760.1	63.5	17.5	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Helder	29 91	759.7	29.91	759.7	69.7	15.4	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.89	759.2	29.89	759.2	67.5	19 7	74	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Utrecht	29.86	758.4	29.91	759.6	67.8	19.9	67	ESE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.79	756.6	29.84	758.0	65.5	18.6	68	S	10.3	4.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.88	759.0	29.92	760.0	53.6	12.0	65	N	18	8	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.68	753.8	29.82	757.3	75.7	24.3	53	SW	7	3	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.95	760.8	30.00	761.9	48.9	9.4	82	NE	11	5	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.05	763.3	30.24	768.0	77.4	25.2	79	W	13.0	5.8	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.1	29.97	761.2	79.7	26.5	37	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	763.1	30.13	765.3	73.2	22.9	69	SW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.8	30.07	763.7	69.3	20.7	61	N	15.0	6.7	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.21	767.4	30.28	769.1	79.9	26.6	71	WNW	10.5	4.7	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from —		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello				
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	NW	Blue sky	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro				
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	1	ENE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira				H. Mecudorico, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello				
Tejo, Capt. J. M. T. Guimaraes. Macao, China	0	.....	Blue sky	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.25	742.9	29.65	753.1	72.1	22.3	51	NW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.21	742.0	29.61	752.2	69.8	21.0	48	NNE	11	5	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.46	748.2	29.69	754.1	67.8	19.6	43	NNW	9	4	6c	.....	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.64	752.8	29.65	753.2	52.5	11.4	95	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	28.73	729.7	29.33	745.0	67.1	19.5	69	NNW	7	3	.....	.....	10csk	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.50	749.3	29.57	751.1	66.4	19.1	84	SW	13	6	.....	.....	10n	.....	.....	.....	.....	Raining	Kurdukof.
Kertch	29.64	752.8	29.66	753.3	85.3	29.6	67	W	7	3	.....	.....	1	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.02	737.0	29.54	750.4	64.9	18.3	76	S	9	4	.....	.....	9ks	.....	.....	.....	.....	Light rain...	Meteorological Obs.
Lugan	29.27	743.5	29.47	748.4	81.3	27.4	44	SW	18	8	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.72	754.8	29.74	755.3	49.5	9.9	94	NNE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.36	720.3	29.67	753.6	93.4	34.1	32	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.82	757.5	29.74	755.4	86.9	30.5	33	S	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.17	740.9	29.61	752.0	82.0	27.8	37	NW	18	8	.....	.....	5	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.31	744.4	29.56	750.8	74.1	23.4	55	SE	4	2	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.59	726.3	29.50	749.3	74.5	23.6	44	S	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.2	29.64	752.8	87.8	31.0	32	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.17	715.5	29.62	752.3	90.3	32.4	58	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.07	738.3	29.52	749.8	90.5	32.5	34	SSE	4	2	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.48	748.7	29.75	755.6	88.0	31.1	50	S	2	1	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk																			
Peking (China)	29.44	747.8	29.58	751.4	83.8	28.8	77	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.64	752.9	29.74	755.4	66.6	19.2	98	SE	25	11	.....	.....	10n	.....	.....	.....	.....	Rain & fog...	
Nikolaievsk, on the Amoor	29.62	752.4	29.71	754.6	56.8	13.8	66	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.79	756.7	29.89	759.3	75.9	24.4	71	SE	3.9	1.75	.....	.....	7	.....	.....	0.009	0.23	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.97	761.2	30.02	762.6	70.5	21.4	72	NW	2.6	1.18	.....	0	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.3	.....	.....	72.9	22.7	53	W	5.9	2.65	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.71	703.8	29.78	756.5	88.2	31.2	32	SW	11.2	5.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.68	753.9	29.82	757.5	96.6	35.9	38	SE	3.8	1.69	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.11	739.4	29.99	761.7	65.8	18.8	82	W	0	0	.....	.....	10	.....	.....	0.122	3.1	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.00	762.0	30.07	763.7	81.3	27.4	80	SE	3.8	1.7	.....	2c;ck	0	Calm	.....	0.185	4.7	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.82	757.3	82.3	27.9	79	NE	4.0	1.8	.....	1s	.....	E	0	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	758.8	29.97	761.2	77.2	25.1	67	WNW	16.8	7.5	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.02	762.6	30.11	764.9	85.3	29.6	71	E	10.4	4.66	.....	8ck	3k	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid 655.6 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.†	Observer.
Haparanda	29.87	758.8	29.91	759.8	67.8	19.9	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.82	757.4	29.87	758.7	70.6	21.4	53	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Hernosand	29.78	756.5	29.84	757.8	68.4	20.2	71	S	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.68	753.9	29.86	758.4	73.8	23.2	39	ENE	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.73	755.1	29.79	756.6	66.9	19.4	60	NNE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.75	755.6	29.84	757.8	75.6	23.9	44	NW	3.1	1.4	.....	.....	3	.....	NE	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 49° 22', W. 6° 13'	.....	.....	29.91	759.6	59.7	15.4	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.8	29.93	760.1	66.6	19.2	71	WNW	.....	.....	1	.....	3	.....	.....	0.039	1.0	Cloudy	The Observatory.
Zurich	28.31	719.0	29.89	759.3	69.8	21.0	63	NE	.....	.....	1	.....	7	.....	.....	0.236	6.0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −2.8 mm.; Thermometer, −3.4 Cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.81	757.1	77.0	25 0	33	NNE	17	7.5	.....	.....	1	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	761.9	78.1	25.6	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.62	752.3	29.73	755.2	93.0	33.9	57	SW	.....	.....	3	.....	9s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.47	748.5	29.53	750.0	54	12.2	95	NE	15	6.7	.....	.....	10n	.....	NE	1.37	34.8	Heavy rain	G. A. Ball.
Charlottetown, P. E. Island	29.44	747.8	29.48	748.8	59	15.0	90	E	20	8.9	.....	.....	10n	.....	.....	0.035	0.89	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.70	754.4	66.0	18.3	69	NW	.....	.....	3	.....	8s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.48	748.8	29.64	752.8	51.5	10.8	100	E	.....	.....	4	.....	10n	.....	.....	0.80	20.3	Light rain	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.60	751.8	29.62	752.3	49	9.4	96	E	36	16.1	.....	.....	10n	.....	E	0.36	9.1	Light rain	J. McWilliams.
Fredericton, N. B	29.44	747.8	29.50	749.3	59.8	15.4	89	NE	4	1.8	.....	.....	10s	.....	.....	0.44	11.2	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.41	747.0	30.23	767.8	59	15.0	82	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.69	733.8	29.07	761.2	60	15.6	77	NW	.....	.....	2	3cs	0	.....	.....	0	0	Fair	James Grant.
*Halifax, N. S	29.41	747.0	29.52	749.8	61	16.1	97	S	5	2.2	.....	.....	10n	.....	S	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.60	751.8	29.96	761.0	64.7	18.2	76	NW	.....	.....	2	8cs	0	.....	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.49	749.0	29.50	756.9	65	18.3	66	NW	12	5.4	.....	2k	0	NW	.....	0.02	0.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.58	751.3	29.62	752.3	56.2	13.4	90	E	7	3.1	.....	.....	10n	.....	.....	0.26	6.6	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.49	749.0	29.08	753.9	63	17.2	69	NW	15	6.7	.....	2ck	8ks	N	N	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.91	759.7	60	15.6	79	NW	12	5.4	.....	.....	10n	.....	NW	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.87	758.7	62.2	16.8	80	NW	.....	.....	5	4k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.95	760.7	60	15.6	94	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S	29.52	749.8	29.57	751.1	60.5	15.8	.....	SE	7	3.1	.....	.....	.....	.....	.....	1.50	38.1	Raining	Peter Grant.
Port Stanley, Ontario	29.38	745.0	29.97	761.2	62	16.7	87	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.30	744.2	29.62	752.3	54	12.2	100	E	.....	.....	1	.....	10n	.....	E	0.18	4.6	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.84	757.9	58	14.4	84	NW	6	2.7	.....	.....	10s	.....	NW	0.07	1.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.40	746.7	29.46	748.0	65	18.3	92	Calm	.....	.....	0	.....	Fog	.....	.....	0.37	9.4	Foggy	Dr. Gove.
St. John, N. B	29.30	744.2	29.46	748.3	59	15.0	96	E	1	0.4	.....	.....	10s	.....	.....	0.66	16.8	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.26	743.2	29.95	760.7	61	16.1	67	N	19	8.5	.....	.....	10n	.....	N	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.18	741.1	29.94	760.5	60	15.6	71	NW	15	6.7	.....	.....	10n	.....	NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.70	729.0	29.95	760.7	57.6	13.9	80	NW	10	4.5	.....	2c;cs	8ks;s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.61	752.1	29.65	753.1	57	13.9	85	E	3	1.3	.....	8c	5n	.....	SW	0.43	10.9	Heavy rain	T. C. Hill.
*Toronto, Ontario	29.55	750.6	29.93	760.2	63	17.2	62	NW	22	9.8	.....	8ck	0	NW	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.43	747.6	29.52	749.8	64.5	18.1	94	SE	12	5.4	.....	10n;k	.....	.....	.....	0	0	Overcast	Prof. John E. Oram.
Woodstock	28.92	734.6	29.96	761.0	61.3	16.3	80	NW	9	4.0	.....	9k?	0	NW	.....	0	0	Clear?	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.57	751.1	29.71	754.6	59.0	15.0	71	NE	.....	.....	.....	5k	5s	.....	.....	0.01	0.3	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.53	750.0	29.74	755.4	68	20.0	60	NW	20	8.9	.....	0	0	.....	.....	0.76	19.3	Clear	
Alpena, Michigan	29.38	746.2	30.01	762.2	63	17.2	62	NW	16	7.2	.....	5k	0	NW	.....	0	0	Fair	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	46	7.8	100	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.86	733.0	29.95	760.7	80	26.7	74	S	8	3.6	.....	2k	Haze	SW	Calm	0	0	Fair	
Atlantic City, New Jersey	29.79	756.7	29.81	757.2	77	25.0	73	N	8	3.6	.....	2ck	Haze	NW	Calm	0	0	Clear	
Augusta, Georgia	29.82	757.4	30.01	762.2	81	27.2	70	SW	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	29.81	757.2	29.86	758.4	81	27.2	48	N	8	3.6	.....	Haze	2s	Calm	NW	0	0	Fair	
Barnegat, New Jersey	29.78	756.4	29.80	756.9	74	23.3	68	NW	8	3.6	.....	Haze	2s	Calm	Calm	0.14	3.6	Clear	
Bismarck, Dakota	28.29	718.6	30.14	765.5	66	18.9	69	SE	10	4.5	.....	0	2s	.....	W	0	0	Fair	
Boerne, Texas	28.56	725.4	29.81	757.2	77	25.0	77	S	4	1.8	.....	0	0	.....	.....	0.	0	Clear	
Boise City, Idaho	27.10	688.3	30.06	763.5	57	13.9	47	SE	3	1.3	.....	5k	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.52	749 8	29.66	753.4	72	22.2	58	W	10	4.5	.....	1cs	0	Calm	.....	0.64	16.3	Clear	
Brackettville, Texas	28.87	733.3	29.85	758.2	79	26.1	62	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.13	739.9	30.10	764.5	62	16.7	77	E	12	5.4	.....	10cs	0	SW	.....	0	0	Cloudy	
Brownsville, Texas	29.91	759.7	29.96	761.0	86	30.0	68	SE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.22	742.2	29.89	759.2	64	17.8	68	NW	9	4.0	.....	2k	0	NW	.....	Inap.	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	21	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.43	747.5	29.70	754.4	65	18.3	63	NW	5	2.2	.....	2ck	5ks	NW	NW	0.04	1.0	Fair	
Cairo, Illinois	29.59	751.6	29.96	761.0	86	30.0	76	Calm	0	0	.....	2k	Haze	Calm	.....	0	0	Fair	
Campo, California	27.44	697.0	30.00	762.0	46	7.8	92	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.90	759.4	29.90	759.4	81	27.2	87	SW	17	7.6	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cape Henry, Virginia	29.81	757.2	29.82	757.4	82	27.8	91	SW	13	5.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	82	27.8	87	SW	21	9.4	.....	5ck	Haze	W	.....	0	0	Dense haze.	
Cape May, New Jersey	29.80	756.9	29.84	757.7	75	23.9	81	N	10	4.5	.....	8ck	0	NW	.....	0	0	Cloudy	
Castroville, Texas	29.20	741.7	29.87	758.7	78	25.6	73	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	29.92	760.0	29.98	761.5	81	27.2	74	W	10	4.5	.....	0	0	.....	.....	0.40	10.2	Clear	
Charlotte, North Carolina	29.10	739.1	29.86	758.4	83	28.3	64	W	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Chattanooga, Tennessee	29.18	741.1	29.93	760.2	83	28.3	63	SW	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	56	13.3	87	W	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	
Chicago, Illinois	29.41	747.0	30.07	763.8	70	21.1	61	NE	9	4.0	.....	5k	0	E	.....	0	0	Fair	
Cincinnati, Ohio	29.36	745.7	29.98	761.5	72	22.2	62	NE	6	2.7	.....	5k	0s	N	NE	0	0	Cloudy	
Cleveland, Ohio	29.28	743.7	29.98	761.5	66	18.9	69	N	16	7.2	.....	5k	0	NW	.....	Inap.	Inap.	Fair	
Coleman City, Texas	28.17	715.5	29.74	755.4	80	26.7	59	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.16	740.7	29.96	761.0	72	22.2	54	N	8	3.6	.....	8ck	0	Calm	.....	0	0	Fair	
Concho, Texas	28.06	712.7	29.65	753.1	77	25.0	61	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.51	749.5	29.95	760.7	80	26.7	66	S	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.43	747.5	30.04	763.0	70	21.1	70	NE	7	3.1	.....	1c	0	Calm	.....	0	0	Clear	
Deadwood, Dakota	25.49	647.4	.....	.....	59	15.0	82	Calm	0	0	.....	2ck	2s	Calm	Calm	0.10	2.5	Fair	
Decatur, Texas	28.88	733 5	29.91	759.7	86	30.0	58	NW	12	5.4	.....	2c	0	Calm	.....	0	0	Fair	
Denison, Texas	29.14	740.1	29.89	759.2	81	27.2	67	S	6	2.7	.....	5cs	0	S	.....	0.03	0.8	Fair	
Denver, Colorado	24.91	632.7	30.13	765.3	62	16.7	88	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.19	741.4	30.04	763.0	66	18.9	79	NE	3	1.3	.....	5c	0	NW	.....	0	0	Fair	
Detroit, Michigan	29.36	745.7	30.01	762.2	61	16.1	71	N	5	2.2	.....	1k	0	N	.....	0.35	8.9	Clear	
Dodge City, Kansas	27.46	647.5	29.63	752.6	75	23.9	60	E	8	3.6	.....	5ck	5ks	SW	SW	0.32	8.1	Cloudy	
Dubuque, Iowa	29.40	746.7	30.08	764.0	67	19.4	69	NE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.51	749.5	30.18	766.6	59	15.0	65	N	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Eagle Pass, Texa	29.18	741.1	29.88	758.9	80	26.7	59	SE	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
Eastport, Maine	29.40	746.7	29.46	748.3	62	16.7	91	NW	2	0.9	.....	.....	Fog	.....	NW	1.37	34.8	Foggy	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	82	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.26	667.0	.....	.....	69	20.6	56	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.26	743.2	29.95	760.7	64	17.8	73	NW	7	3.1	.....	2k	5ks	N	N	0.08	2.0	Cloudy	
Escanaba, Michigan	29.49	749.0	30.13	765.3	58	14.4	70	N	12	5.4	.....	8k	0	N	.....	0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.08	764.0	78	25.6	29	Calm	0	0	.....	0	5s	.....	Calm	0.10	2.5	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.98	710.7	.....	.....	68	20.0	74	SE	4	1.8	.....	5c	0	Calm	.....	0.07	1.8	Fair	
Fort Davis, Texas	25.27	641.8	30.23	767.8	66	18.9	69	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759.7	80	26.7	70	N	10	4.5	.....	8cs	0	S	.....	0	0	Fair	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	70	21.1	61	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.70	729 0	29.91	759.7	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.37	695.2	.....	.....	78	22.8	76	NW	3	1.3	.....	5k	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.75	704.8	29.57	751.1	79	26.1	62	S	12	5.4	.....	2ck	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.74	730.0	29.79	756.7	74	23.3	76	N	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
Fort Stevenson, Dakota	28.25	717.5	.....	.....	66	18.9	68	E	9	4.0	.....	4c	0	S	.....	Inap.	Inap.	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	64	17.8	73	NW	.....	.....	1	5k	0	W	.....	0.34	8.6	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.26	717.8	29.74	755.4	78	25.6	65	S	2	0.9	.....	2cs	2ks	Calm	Calm	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	75	23.9	100	N	26	11.6	.....	.....	10n	.....	N	0.42	10.7	Thunder-storm	
Graham, Texas	28.86	733.0	29.87	758.7	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Grand Haven, Michigan	29.42	747.3	30.06	763.5	64	17.8	63	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.86	758.4	76	24.4	86	SE	3	1.3	.....	2c	2s	Calm	Calm	0	0	Fair	
Indianapolis, Indiana	29.24	742.7	29.99	761.7	69	20.6	65	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.98	761.5	30.01	762.2	83	28.3	79	S	9	4.0	.....	1c	1ks	Calm	S	0	0	Clear	
Jacksboro, Texas	28.73	729.7	29.77	756 1	83	28.3	67	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.05	763 3	30.07	763.8	83	28.3	71	SW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.39	746.5	29.98	761.5	73	22.8	76	NE	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.04	763.0	30.07	763.8	84	28.9	71	S	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Kittyhawk, North Carolina	29.78	756.4	29.80	756.9	80	26.7	82	N	17	7.6	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.00	736.6	29.95	760.7	78	25.6	69	SW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.39	746.5	30.11	764.8	61	16.1	77	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	70	21.1	53	Calm	0	0	.....	2k	0	NW	.....	0	0	Clear	
Laredo, Texas	29.55	750.6	29.87	758.7	85	29.4	51	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.93	760.2	70	21.1	90	NE	6	2.7	.....	.....	10s	.....	NE	0.69	17.5	Cloudy	
Little Rock, Arkansas	29.64	752.8	29.98	761.5	78	25.6	86	S	2	0.9	.....	10k	Haze	Calm	Calm	0	0	Cloudy	
Los Angeles, California	29.60	751.8	29.94	760.5	62.0	16.7	88	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.43	747.5	29.96	761.0	75	23.9	52	N	10	4.5	.....	2c	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.20	741 7	29.84	757.9	85	29.4	67	SE	1	0.4	.....	5c	1s	W	Calm	0.13	3.3	Fair	
Madison, Wisconsin	29.13	739.9	30.10	764.5	61	16.1	77	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.44	747.8	30.14	765.5	58	14.4	70	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Mason, Texas	28.36	720.3	30.02	762.5	82	27.8	60	SW	4	1.8	.....	0	2s	.....	E	0	0	Fair	
Memphis, Tennessee	29.64	752.8	29.96	761.0	83	28.3	79	SW	4	1.8	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.39	746 5	30.10	764.5	65	18.3	63	NE	12	5.4	.....	1c	0	Calm	.....	0	0	Clear	
Mobile, Alabama	30.01	762.2	30.05	763.3	77	25.0	84	W	2	0.9	.....	2c	2ks	Calm	Calm	0.06	1.5	Fair	
Montgomery, Alabama	29.82	757.4	30.04	763.0	80	26.7	82	SW	6	2.7	.....	2k	0	SW	.....	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Morgantown, West Virginia	28.96	735.6	29.89	759.2	76	24.4	49	NE	12	5.4	.....	5ck	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	23.48	596 4	29.84	757.9	41	5.0	100	NW	55	24.6	.....	.....	Fog	.....	NW	1.55	39.4	Foggy	
Nashville, Tennessee	29.44	747.8	29.94	760.5	88	31.1	62	SW	1	0.4	.....	5k	0	S	.....	0	0	Fair	
New Haven, Connecticut	29.63	752.6	29.74	755.4	77	25.0	91	NW	4	1.8	.....	2c	0	Calm	.....	2.25	57.1	Clear	
New London, Connecticut	29.68	753.9	29.72	754.9	76	24.4	52	NW	9	4.0	.....	2ck	0	NW	.....	2.07	52.6	Clear	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	80	26.7	82	S	3	1.3	.....	5cs	2s	Calm	Calm	Inap.	Inap.	Fair	
Newport, Rhode Island	29.67	753.6	29.72	754.9	72	22.2	62	W	12	5.4	.....	0	0	.....	.....	1.30	33.0	Clear	
New York, New York	29.62	752.3	29.79	756.7	72	22.2	49	NW	12	5.4	.....	2c	Haze	SW	Calm	0.85	21.6	Fair	
Norfolk, Virginia	29.78	756.4	29.84	757.9	88	31.1	59	SW	9	4.0	.....	0	Haze	.....	.....	0	0	Clear	
North Platte, Nebraska	27.16	689.8	29.65	753.1	64	17.8	94	SE	8	3.6	.....	5k	8s	SW	SW	0.74	18.8	Cloudy	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	44.0	6.7	92	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
Omaha, Nebraska	28.93	734.8	29.99	761.7	65	18.3	84	N	5	2.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Oswego, New York	29.53	750.0	29.84	757.9	65	18.3	65	NW	12	5.4	.....	0	0	.....	.....	0.08	2.0	Clear	
Pembina, Dakota	29.32	744.7	30.13	765.3	53	11.7	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.78	756.4	29.85	757.7	76	24.4	69	N	12	5.4	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Phœnix, Arizona	28.71	729.2	30.41	772.4	82	27.8	56	NE	1	0.4	.....	5cr	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	37	2.8	71	W	28	12.5	.....	5k	0	W	.....	0.19	4.8	Fair	
Pilot Point, Texas	29.05	737.9	29.84	757.9	91	32.8	60	SE	5	2.2	.....	2k	0	S	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	64	17.8	21	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.16	740.7	29.93	760.2	68	20.0	65	N	7	3.1	.....	2k	0	NW	.....	0.02	0.5	Fair	
Port Huron, Michigan	29.54	745.2	29.99	761.7	61	16.1	71	N	12	5.4	.....	2k	0	N	.....	0	0	Clear	
Portland, Maine	29.64	750.3	29.99	761.6	73	22.8	63	W	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Portland, Oregon	30.06	763.5	30.14	765.5	53.0	11.7	93	S	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	
Prescott, Arizona	24.86	631.4	30.22	767.6	60	15.6	82	SW	.....	.....	1	2cs	0	SW	.....	0.12	3.0	Fair	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	81	27.2	74	E	7	3.1	.....	2cs	0	Calm	.....	0.30	7.6	Clear	
Red Bluff, California	29.53	750.0	29.88	758.9	73	22.8	43	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.78	756.4	29.99	761.7	78	25.6	82	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.28	743.7	29.87	758.7	64	17.8	73	W	13	5.8	.....	5k	0	W	.....	0.72	18.3	Fair	
*Roseburg, Oregon	29.59	751.6	30.17	766.3	45	7.2	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.79	756.7	29.87	758.7	63	17.2	67	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	29.99	761.7	75	23.9	56	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.06	763.5	30.07	763.8	79	26.1	87	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.28	743.7	30.08	764.0	63	17.2	62	E	6	2.7	.....	8cs	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	26.05	661.5	29.98	761.5	68	20.0	38	Calm	0	0	.....	4k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.31	744.5	29.86	758.4	82	27.8	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.89	759.2	29.96	761.0	60	15.6	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.36	745.7	30.01	762.2	68	20.0	70	N	16	7.2	.....	2k	0	NW	.....	0.08	2.0	Fair	
Sandy Hook, New Jersey	29.76	755.9	29.70	754.4	72	22.2	67	NW	20	8.9	.....	5c	0	W	.....	0.17	4.3	Fair	
San Francisco, California	29.86	758.4	29.92	760.0	55	12.8	81	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	64	17.8	48	NE	1	0.4	.....	5k	0	SE	.....	Inap	Inap.	Fair	
Savannah, Georgia	29.94	760.5	30.03	762.7	86	30.0	68	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	77	25.0	82	S	1	0.4	.....	0	8s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.95	760.7	29.98	761.5	81	27.2	87	W	16	7.2	.....	5ck	0	N	.....	0	0	Fair	
Socorro, New Mexico	25.49	647.4	29.55	750.6	71	21.7	53	Calm	0	0	.....	2c	2s	S	Calm	0.01	0.3	Fair	
Springfield, Ill	29.38	746.2	30.03	762.7	72	22.2	58	NE	6	2.7	.....	.....	10ks;s	.....	W	0	0	Cloudy	
Springfield, Massachusetts	29.59	751.6	29.72	754.9	74	23.3	63	NW	6	2.7	.....	0	0	.....	.....	0.89	22.6	Clear	
Stockton, Texas	26.86	682.2	29.86	758.4	75	23.9	7	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.64	752.8	29.99	754.1	70	21.1	66	NW	18	8.0	.....	2k	0	NW	.....	0.38	9.7	Clear	
Toledo, Ohio	29.36	745.7	30.02	762.5	63	17.2	67	N	7	3.1	.....	0	0	.....	.....	0.21	5.3	Clear	
Tucson, Arizona	27.51	698.7	30.06	763.5	77	25.0	60	Calm	0	0	.....	8c	0	S	.....	0	0	Fair	
Umatilla, Oregon	29.68	753.9	30.16	766.1	58.0	14.4	64	SE	8	3.6	.....	0	8ks	.....	W	0	0	Fair	
Uvalde, Texas	29.05	737.9	29.83	757.7	79	26.1	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	76	24.4	85	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.35	618.5	29.83	757.7	60	15.6	44	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.49	749.0	29.85	758.2	59.5	15.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.74	755.4	29.86	758.2	82	27.8	52	NE	10	4.5	.....	1c	2s;hz	W	SW;Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	77	25.0	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.86	758.4	29.94	760.5	80	26.7	78	W	10	4.5	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	26.65	651.5	30.01	762.2	58	14.4	37	SW	6	2.7	.....	0	1s	.....	SW	0	0	Clear	
Wood's Holl, Mass	29.68	752.6	29.87	758.6	71	21.7	85	W	22	9.8	.....	5cs	0	SW	.....	1.42	36.1	Fair	
Yankton, Dakota	28.81	731.8	30.06	763.5	63	17.2	89	E	2	0.9	.....	10k	0	Calm	.....	Inap.	Inap.	Cloudy	
Yuma, Arizona	29.70	754.4	29.86	758.4	79	26.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	65.6	18.3	87	Calm	.....	.....	0	2k	3ks	.....	.....	0.05	1.3	.....	Thomas Herran.
Navassa, W. I	25.25	641.3	.....	.....	82	27.8	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	30.06	763.5	82	27.8	79	E	.....	.....	2	4c	4k	.....	.....	0.600	15.24	Clear	O. J. Hering.
Santiago de Cuba, W. I	30.02	762.5	30.03	762.7	83	28.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort MacKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,3c (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1,656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.458 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡	.....	.....	84	28.9	91	W	8	1.3	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N. H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	30.02‡	762.5‡	.....	.....	77	25.0	91	SW	.....	.....	4	.....	8ks	.....	SW	0.77	19.6	.....	.....	Cloudy	
Adams, N. 34° 15′, W. 120° 55′	29.95‡	760.7‡	.....	.....	59	15.0	94	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	Rough	NW	Clear	
Alliance, Antwerp, Belgium	29.86‡	758.4‡	.....	.....	69	20.6	65	ESE	.....	.....	1–2	.....	9	.....	SW	.....	.....	.....	.....	Overcast	
Ashuelot, Yokohama, Japan	30.00‡	762.0‡	.....	.....	77	25.0	95	S	.....	.....	5	.....	4	.....	S	.....	.....	Mod'ate	S	Fair	
Colorado, New York, N. Y	29.77‡	756.1‡	.....	.....	71	21.7	53	WNW	17	7.6	.....	.....	5	.....	N; W	0.85	21.6	.....	.....	Cloudy?	
Constellation, Portland, Maine	29.59‡	751.6‡	.....	.....	70.7	21.5	66	WNW	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Clear	
Constitution, League Isl. Navy Yard, Pa.	29.85‡	758.2‡	.....	.....	77	25.0	65	NNW	.....	.....	2	.....	3	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Cronstadt, Russia	29.68‡	753.9‡	.....	.....	57	13.9	87	NNE	.....	.....	4	.....	10	.....	NNE	Blank	Blank	.....	.....	Cloudy	
Franklin, Norfolk, Va.	29.84‡	757.6‡	.....	.....	83	28.3	67	SW	9.6	4.3	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Hartford, Montevideo, Uruguay	30.25‡	768.3‡	.....	.....	48	8.9	78	NNW	.....	.....	4	.....	5?	.....	NNW	0	0	.....	.....	Clear?	
Independence, Mar I'd. Navy Yard, Cal.	29.92‡	760.0‡	.....	.....	66	18.9	100	SW	5	2.2	.....	.....	0	.....	SW?	.....	.....	.....	.....	Clear	
Kearsarge, N. 46° 03′ W. 50° 28′	29.71‡	754.6‡	.....	.....	53	11.7	93	NE	.....	.....	1	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy	
Michigan, Erie, Pa	29.92‡	760.0‡	.....	.....	64	17.8	73	N	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	29.76‡	755.9‡	.....	.....	86	30.0	79	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	30.04‡	763.0‡	.....	.....	78	25.6	82	S	.....	.....	4	.....	ck	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C	30.02‡	762.5‡	.....	.....	80	26.7	82	WSW	12	5.4	.....	.....	5	.....	WSW	1.20	30.5	.....	.....	Fair	
Onward, Callao, Peru	30.02‡	762.6‡	.....	.....	61	16.1	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.75‡	755.6‡	.....	.....	85	29.4	91	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C	.....	.....	.....	.....	82	27.8	67	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.04‡	763.0‡	.....	.....	61	16.1	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	
Portsmouth, Boston, Mass	29.66‡	753.4‡	.....	.....	69	20.6	90	SW	.....	.....	3	.....	5	.....	SW	0	0	.....	.....	Fair	
Powhatan, Portland, Me	29.63‡	752.6‡	.....	.....	72	22.2	71	WSW	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.79‡	756.7‡	.....	.....	76	24.4	52	NE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Hong-Kong, China	29.87‡	758.7‡	.....	.....	84	28.9	83	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	30.03‡	762.7‡	.....	.....	78	25.6	91	S	.....	.....	3	.....	10	.....	S	0	0	Smooth	S	Cloudy	
Rio Bravo, Brownsville, Texas	29.97‡	761.2‡	.....	.....	84	28.9	96	SE	.....	.....	1	.....	2	.....	SE	0	0	.....	.....	Fair	
Santee, Annapolis, Md	29.88‡	758.9‡	.....	.....	80	26.7	74	N	.....	.....	2	.....	5	.....	NW	0	0	.....	.....	Fair	
Saratoga, New York City, N. Y	29.80‡	756.9‡	.....	.....	74	23.3	72	NW	.....	.....	5	.....	2	.....	NW	Heavy	Heavy	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.93‡	760.2‡	.....	.....	78	25.6	73	NNW	6	2.7	.....	.....	2	.....	NW	0	0	.....	.....	Fair	
Trenton, Flushing, Netherlands	29.86‡	758.9‡	.....	.....	66	18.9	74	ESE	.....	.....	1	.....	10	.....	SSW	.....	.....	Smooth	.....	Rainy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.92‡	760.0‡	.....	.....	62	16.7	83	SSW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Vandalia, New London, Conn	29.75‡	755.6‡	.....	.....	70	21.1	70	W	.....	.....	3	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass	29.65‡	753.1‡	.....	.....	72	22.2	85	W	9	4.0	.....	.....	0	.....	.....	0.51	13.0	.....	.....	Clear	
Wyoming, N. 43° 57′, E. 14° 09′	29.87‡	758.7‡	.....	.....	76	24.4	56	E	.....	.....	1	.....	2	.....	E	.....	.....	Smooth	E	Clear	
Wachusett, New Orleans, La	30.03‡	762.7‡	.....	.....	84	28.9	75	S	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 16° 50', W. 99° 50'...†		30.01‡	762.2‡	83	28.3	100	NW			2		8		NW	0.25 in. or 6.3 mm			D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 18° 10', W. 161° 01'		29.98‡	761 6‡				ESE			1		10		SE		Mod'ate	SE	Dull	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 38° 20', E. 146° 50'...†		30.09‡	764.3‡	78	25.6	91	SSW			4		ks		SW	0	Mod'ate	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 41° 54', W. 63° 38'		29.78‡	755.1‡	68.0	20.0	92	WSW			3		8		WSW	½ h'r	Smooth	WSW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 52° 54', E. 3° 40'		29.91‡	759.7‡				SE			1		5		E		3	NW	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		29.91‡	759.7‡	60	15.6	88	SW			3		4		S	0	Smooth		Cloudy?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
S. S. Indiana, N. 44° 50′, W. 44° 36′		29.66‡	753.4‡				SSW	16	7.2			10		WSW		Mod'ate	SW	Dense fog.	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Schooner Addie Fuller, N 30° 3′, W. 79° 36′		30.05‡	763.3‡	84	28.9	83	SW	8	3.6			2ck			0	Short		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 26° 39′, W. 69° 50′ †		30.22‡	767.6‡				S			1		2			0	Smooth		Fine	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 18, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.89	759.3	67.5	19.7	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.93	760.3	85.8	29.9	66	WNW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.91	759.7	81.9	27.7	78	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.94	760.4	78.3	25.7	87	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.95	760.6	94.6	34.8	18	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.95	760.6	93.7	34.3	22	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.00	761.9	78.4	25.8	43	NNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	29.91	759.6	101.1	38.4	30	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.90	759.4	97.7	36.5	32	E	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.30	744.3	29.62	757.5	78.8	26.0	43	NE	.....	.....	2	.....	4	.....	.....	Inap.	Inap.	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.4	29.37	758.6	60.1	15.6	96	W	4.7	2.1	.....	.....	10	.....	.....	1.618	41.1	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.97	735.7	29.32	757.3	65.5	18.6	81	Calm	.....	.....	0	.....	88	.....	E	0.252	6.40	.....	Julius Mikolik.
Gratz	28.67	728.2	29.38	759.0	67.5	19.7	82	WNW	.....	.....	3	.....	6	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.44	722.4	29.30	756.8	76.3	24.6	76	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.55	725.2	29.34	757.8	71.4	21.9	52	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.76	730.6	29.71	764.7	68.0	20.0	67	NW	.....	.....	2	.....	3	.....	.....	0.069	1.6	.....	Dr. T Stanecki.
Pola	29.75	755.6	29.85	768.3	81.3	27.4	52	SSW	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.37	746.1	29.82	757.4	74.8	23.8	50	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.52	749.9	29.79	756.7	76.6	24.8	52	W	.....	.....	1	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.77	756.2	29.87	758.8	77.7	25.4	49	NNW	.....	.....	1	.....	2	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.15	741.1	29.93	761.0	73.0	22.8	55	W	.....	.....	2	.....	2	.....	.....	1.248	31.7	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.95	760.7	30.05	763.3	56.1	13.4	.....	SSE	10	4.5	.....	.....	8	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	29.99	761.7	30.01	762.2	63	17.2	.....	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Misty	Wm McNeil & G. Carrick
Armagh, Observatory	29.81	757.2	30.03	762.7	63.7	17.6	.....	SSW	2	0.9	.....	.....	9	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.01	762.2	67.0	19.4	.....	SE	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	30.02	762.5	65.9	18.8	.....	SSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.68	753.9	30.07	763.8	61.0	16.1	.....	SE	.....	.....	1	.....	8	.....	.....	0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84.5	29.2	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	29.95	760.7	30.05	763.3	71.0	21.7	.....	E	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	H. Todd.
Cardington	.....	.....	30.04	763.0	68.0	20.0	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.92	760.0	30.06	763.5	61.3	16.3	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.99	761.7	30.03	762.7	60	15.6	.....	N	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	62	16.7	.....	ENE	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.82	757.4	30.04	763.0	67.7	19.8	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.63	701.8	29.92	760.0	69.0	20.6	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A. H. C.
Free Town (Sierra Leone)	29.78	756.4	30.02	762.5	74	23.3	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.97	761.2	62	16.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.82	757.4	29.88	758.9	76.7	24.8	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.79	756.7	30.00	762.0	64.2	17.9	.....	S	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean. [O.
Great Yarmouth	30.06	763.5	30.07	763.8	60	15.6	.....	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.04	763.0	65.2	18.4	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.80	756.9	30.02	762.5	60.5	15.8	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F. R. S.
Helston	29.96	761.0	30.08	764.0	69	20.6	.....	SW	.....	.....	2	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.01	762.2	30.02	762.5	67	19.4	.....	SW	.....	.....	2	.....	3	.....	.....	.....	.....	D clouds	John Tilston.
Jersey	29.77	756.1	30.06	763.5	62.6	17.0	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Misty	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	65.0	18.3	.....	ENE	10	4.5	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.80	756.9	30.06	763.5	64.9	18.3	.....	S	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F. G. S.
Malta, Mediterranean	29.83	757.7	29.91	759.7	79.4	26.3	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.92	760.0	30.01	762.2	60	15.6	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.07	763.8	87.2	30.7	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.88	758.9	30.07	763.8	69.1	20.6	.....	SE	.....	.....	3	.....	8k	.....	SSW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.53	750.0	30.05	763.3	64.1	17.8	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.05	763.3	67	19.4	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.95	760.7	30.02	762.5	64.3	17.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.99	761.7	30.11	764.8	67	19.4	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.86	758.4	30.02	762.5	64	17.8	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	30.05	763.3	55.3	12.9	.....	W	7	3.1	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev C. Clouston, L. L. D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	87.6	30.9	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.79	756.7	30.06	763.5	63.0	17.2	.....	ESE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.99	761.7	30.02	762.5	66.2	19.0	93	Calm	.....	.....	0	.....	10	.....	.....	0.050	1.27	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.04	763.0	64.2	17.9	.....	ENE	0	0	.....	.....	8	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	30.02	762.5	67.5	19.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Rev. C. H. Griffith, F. M. S.
Truro, Royal Institution	29.81	757.2	30.02	762.5	67.5	19.7	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. Clouds	W. Newcombe.
Valencia, Observatory	30.01	762.2	30.03	762.7	71	21.7	.....	NW	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	
	30.01	762.2	30.03	762.7	60.8	16.0	.....	WSW	18	8.0	.....	.....	7	.....	.....	.....	.....	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.99	761.7	30.03	762.7	54.6	12.6	93	NW	5.0	2.2	.....	10	9	.....	.....	0.400	10.16	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.38	771.6	43	6.1	79	SE	.....	.....	2	.....	7k	.....	.....	0.04	1.0	.....	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	30.04	763.0	60.0	15.6	.....	E	.....	.....	2	10ck	.....	W	.....	0.05	1.3	Cloudy	Andrew Gibb
Mauritius, Observatory	29.86	758.4	30.06	763.4	70.8	21.6	63	ESE	9.0	4.0	.....	0	7	.....	SSW; SE	0.01	0.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.31	769.9	30.40	772.1	49.0	9.4	90	Calm	0	0	.....	.....	4	.....	.....	0.02	0.5	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 55', E. 28° 35'	.....	.....	29.81‡	757.2‡	80.2	26.8	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 51° 30', W. 9° 00'	.....	.....	30.14	765.5	61	16.1	.....	WSW	.....	.....	2	.....	7	.....	W	2	.....	Misty	Capt. Wm. Watson
Agnes Wilson, N. 42° 50', W. 44° 51'	.....	.....	29.92	760.0	73	22.8	.....	SW	.....	.....	4	.....	4	.....	.....	3	W	Misty	Capt. H. W. Dyke.
Astarte, N. 53° 30', W. 19° 15'.....*	.....	.....	29.76‡	755.9‡	58	14.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Capt. Parson.
Barque Commewyne, N. 18° 45', W. 57° 55'	.....	.....	30.05	763.3	81	27.2	.....	ENE	.....	.....	5	.....	3	.....	.....	.....	.....	Showery	Capt. A. Buchan.
Theophane, S. 16° 25', W. 7° 15'	.....	.....	30.21‡	767.3‡	68.3	20.2	.....	E	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance,§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
San José	26.25	666.7	29.97	761.2	64.8	18.2	93	SW	.....	.....	1	8cs	.....	.....	.....	0.1	3.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.88	759.0	29.93	760.2	68.0	20.0	72	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....
Fanöe	30.01	762.2	30.03	762.7	59.5	15.3	71	NW	.....	.....	4	.....	3	.....	.....	.....	.....	.....
Godthaab (Greenland)	29 91	759.7	29.95	760.8	42.6	5.9	91	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Foggy
Stykkisholm (Iceland)	30.02	762.5	30.06	763.6	50.0	10	69	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.96	761.0	30.00	761.9	51.1	12.3	74	SW	.....	.....	2	.....	3	.....	.....	.....	.....	.....
Vestervig	29.88	759.0	29.99	761.8	58.5	14.7	77	WSW	.....	.....	4	.....	7	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.6	30.03	762.6	69.1	20.6	71	NE	.....	.....	1	.....	5	N	NE	0.516	13.1	Cloudy	Collignon, Director.
Amiens, Normal School	29.85	758.2	29.96	761.0	72.7	22.6	56	S	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.71	754.7	29.96	761.0	73.4	23.0	59	E	.....	.....	1	.....	.....	.....	E	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.86	758.5	29.94	760.5	79.2	26.2	54	N	.....	.....	1	.....	2	.....	N	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.43	747.4	29.96	761.0	70.5	21.4	63	SW	.....	.....	1	.....	8kn	.....	W	0.252	6.4	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.71	754.5	29.96	761.0	69.4	20.8	70	NE	.....	.....	1	.....	8	.....	NE	0.010	0.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.12	739.6	29.98	761.6	70.7	21.5	67	SW	.....	.....	1	.....	2	.....	W	0.130	3.3	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.8	30.10	764.4	70.2	21.2	69	N	.....	.....	1	.....	kn	SE	SE	0.638	16.2	.....	Marlot, Director.
Bourges, Normal School	29.45	747.9	29.98	761.6	70.2	21.2	75	W	.....	.....	1	.....	5ck	W	W	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.77	756.2	30.01	762.3	63.7	17.6	88	Calm	.....	.....	0	.....	10	.....	W	0.030	0.75	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.62	752.4	30.02	762.5	75.2	24	33	NW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.95	760.6	30.02	762.5	66.0	18.9	79	N	.....	.....	1	.....	.....	.....	N	0	0	.....	Lair, Director.
Chartres, Normal School	29.40	746.7	29.94	760.5	69.8	21	64	W	.....	.....	1	.....	9	.....	SE	0.087	2.2	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.66	753.4	29.97	761.2	72.0	22.2	59	SSW	.....	.....	1	.....	8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.65	727.7	29.97	761.1	67.8	19.6	60	N	.....	.....	1	.....	10	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School	29.11	739.4	29.95	760.6	68.2	20.1	77	WSW	.....	.....	3	.....	5ckn	WSW	WSW	0.091	2.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.86	733.1	30.00	762.1	75.9	24.4	39	NW	.....	.....	2	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.25	742.9	29.99	761.8	71.2	21.8	62	NW	.....	.....	2	.....	5k	N	.....	0.492	12.5	Cloudy	Ablard, Directo
La Roche-sur-Yon, N. School	29.84	757.8	30.05	763.2	66.7	19.3	77	WNW	.....	.....	1	.....	10	.....	.....	0.004	0.1	Covered	Mouillot, Director.
Le Mans, Normal School	29.71	754.5	30.00	762.0	72.3	22.4	68	SW	.....	.....	2	.....	8	.....	NW	0.138	3.5	Very cloudy	Poirrier, Directo:
Lons-Le-Saulnier, N.School	29.11	739.5	30.01	762.3	65.5	18.6	90	SW	.....	.....	1	.....	10	.....	.....	0.425	10.80	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.1	30.06	763.6	66.6	19.2	73	S	.....	.....	1	.....	.....	.....	SE	N	0.012	0.3	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.65	753.1	29.91	759.8	72.9	22.7	50	W	.....	.....	3	.....	7	.....	WNW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.93	734.9	29.95	760.8	66.9	19.4	83	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	Barbier, Director
Mont-Louis	24.90	632.4	30.21	767.4	64.0	17.8	71	SSE	18.6	8.3	.....	.....	4	.....	SW	0	0	.....	G. Cave.
Nismes, Normal School	29.79	756.8	29.98	761.6	80.6	27	49	N	.....	.....	1	.....	2	.....	NE	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.69	754.2	68.9	20.5	76	WSW	.....	.....	1	.....	10	.....	NNW	0.031	0.8	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.61	574.2	.....	.....	52.7	11.5	.....	W	.....	.....	3	.....	1	.....	.....	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.90	759.5	30.01	762.1	73.0	22.8	58	N	15.0	6.7	.....	.....	8	NW	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.6	.....	.....	44.6	7.0	94	W	.....	.....	2	.....	.....	.....	.....	0.831	21.1	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.01	762.3	30.04	763.1	67.6	19.8	76	NW	.....	.....	1	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.80	756.8	29.98	761.6	70.7	21.5	68	NNW	.....	.....	1	.....	8	.....	NE	0.209	5.3	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.00	762.0	30.03	762.8	62.6	17.0	83	NW	.....	.....	2	.....	8	NW	NW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.2	29.98	761.4	66.2	19 0	83	S	.....	.....	0–1	.....	10	.....	NE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.00	736.6	30.06	763.4	69.8	20.7	78	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.38	746.2	30.10	764.6	66.2	19.0	70	NW	.....	.....	2	.....	9	.....	W	0	0	.....	M. Julier Mercadier.
Tours	29.82	757.3	30.01	762.3	68.0	20.0	70	W	.....	.....	1	.....	10	.....	WNW	0.071	1.8	.....	Cousin-Marquet.
Versailles, Observatory	29.48	748.9	29.98	761.4	71.6	22.0	64	WNW	.....	.....	2	.....	.....	.....	.....	0.008	0.21	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.1	29.98	761.6	71.2	21.8	69	NNW	.....	.....	1	.....	5	.....	NE	0.406	10.3	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.82	757.3	29.84	758.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marhési.
Lyons Obs'y (Park Station)	29.34	745.3	29.95	760.6	69.3	20.7	59	W	.....	.....	1	.....	8	.....	.....	0.303	7.7	Very cloudy	Ch. André, Director.
Nice	.....	.....	29.93	760.2	76.5	24.7	71	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.81	757.2	29.84	757.8	82.4	28.0	85	SE	10.7	4 8	.....	.....	3	.....	.....	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,580.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.09	738.9	29.93	760.3	71.1	21.7	51	N	.....	.....	4	.....	4	N	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.78	756.4	29.94	760.6	73.0	22.8	39	NE	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.41	746.9	29.93	760.3	68.0	20.0	66	NNW	.....	.....	2	.....	4	.....	.....	0.177	4.51	.....	Royal University Ob's'y.
Carlsruhe	29.51	749.5	29.92	759.9	73.4	23.0	58	E	.....	.....	0	.....	9	NW	.....	0	0	.....	Albert Sena.
Cassel	29.43	747.5	30.04	763.0	73.4	23.0	58	NNE	.....	.....	2	.....	5	SW	.....	0.036	0.88	.....	Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	69.4	20.8	67	N	.....	.....	4	.....	3k	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.04	763.1	60.8	16.0	87	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.59	751.6	29.95	760.8	74.3	23.5	.....	NW	.....	.....	1	.....	3	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	29.90	759.5	29.94	760.5	73.8	23.2	48	NNE	.....	.....	2	.....	3ks	NNE	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.55	725.1	29.95	760.7	64.8	18.2	77	SE	.....	.....	3	.....	2	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.91	759.7	29.98	761.4	70.9	21.6	69	SW	.....	.....	2	.....	5k	W	.....	0	0	Fair	Captain F. Hegemann.
Kiel	29.97	761.3	29.99	761.7	65.7	18.7	72	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.75	755.7	29.83	757.7	71.6	22.0	40	N	.....	.....	5	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.91	759.7	68.0	20.0	.....	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.55	750.6	29.96	760.9	71.2	21.8	71	NNE	.....	.....	2	.....	8	N	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.75	755.6	29.80	756.8	65.3	18.5	72	NW	.....	.....	5	.....	8ks	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.15	715.0	30.01	762.3	65.7	18.7	61	W	.....	.....	3	.....	7	.....	.....	0	0	Hazy	Dr. C. Lang.
Neufahrwasser	29.86	758.5	29.88	758.9	69.1	20.6	63	NNW	.....	.....	3	.....	3	.....	.....	0	0	.....	A. Lothes.
Posen	29.62	752.4	29.90	759.4	73.9	23.3	40	NW	.....	.....	1	.....	6	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.42	747.3	29.95	760.7	72.0	22.2	63	Calm	.....	.....	0	.....	9	N	.....	.....	.....	Raining	Imp. University Observatory.
Stuttgart	28.98	736.2	29.89	759.1	73.4	23.0	48	N	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.46	722.8	29.91	759.7	69.6	20.9	48	Calm	0	0	.....	.....	7ck	.....	NW	0	0	Hazy	T. Hopfner.
Wustrow	29.89	759.1	29.91	759.7	66.2	19.0	84	NNE	.....	.....	4	.....	5s	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:61, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	87.6	30.9	.....	SW	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.58	751.2	29.63	752.5	84.1	28.9	69	WNW	17.0	7.6	.....	.....	6	WNW	WNW	0	0	D. clouds	
Deesa	29.20	741.8	29.67	753.5	90.9	32.7	49	SSW	12.9	5.8	.....	.....	3	WSW	.....	0	0	D. clouds	
Bombay	29.73	755.1	29.77	756.1	79.5	26.4	88	S	10.0	4.5	.....	.....	5	.....	SW	0.04	1.0	.....	
Poona	27.91	709.0	29.79	756.8	70.3	21.3	90	WSW	.....	.....	.....	.....	9	.....	W	0.12	3.0	D. clouds	
Lahore	28.78	730.9	29.48	748.8	102.3	39.1	21	SW	3.2	1.4	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.26	692.4	29.81	757.2	72.3	22.4	87	W	20.0	8.9	.....	.....	10	W	W	0	0	D. clouds	
Roorkee	28.59	726.2	29.47	748.5	84.8	29.3	77	SE	4.4	2.0	.....	.....	4	.....	.....	1.00	25.4	.....	
Agra	29.04	737.5	29.58	751.4	90.7	32.6	60	SW	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.64	727.3	29.68	753.8	76.7	24.8	85	NNW	3.8	1.7	.....	.....	10	.....	.....	.....	.....	Drizzling	
Lucknow	29.26	743.2	29.64	752.7	82.3	27.9	79	WSW	1.0	0.4	.....	.....	10	.....	.....	0	0	Overcast	
Allahabad	29.29	744.0	29.60	751.8	87.5	30.6	74	NE	2.4	1.1	.....	.....	9	.....	W	0	0	D. clouds	
Patna	29.41	747.1	29.59	751.6	84.4	29.1	81	ESE	0.9	0.4	.....	.....	8	ESE	ESE	0.02	0.5	D. clouds	
Hazaribagh	27.59	700.7	29.58	751.3	78.8	26.0	85	E	3.0	1.7	.....	.....	10	.....	E	0.40	10.2	Raining	
Cuttack	29.55	750.5	29.63	752.6	81.4	27.4	81	WSW	4.0	1.8	.....	.....	9	.....	.....	1.13	28.7	D. clouds	
Calcutta (Alipore)	29.63	752.7	29.65	753.2	82.7	28.2	79	ESE	9.0	4.0	.....	.....	7	.....	S	0	0	D. clouds	
Goalpara	29.29	744.0	29.68	754.0	77.2	25.1	93	Calm	2.4	1.1	.....	.....	10	.....	SW	0.25	6.4	Overcast	
Chittagong	29.67	753.6	29.77	756.0	81.5	27.5	86	Calm	6.5	2.9	.....	.....	2	.....	.....	0	0	Misty	
Sibsagar	29.34	745.3	29.67	753.7	83.8	28.8	80	W	2.6	1.2	.....	.....	10	.....	.....	0	0	D. clouds	
Jubbulpore	28.26	717.9	29.60	751.9	85.8	29.9	42	Calm	1.8	0.8	.....	.....	10	.....	N	0	0	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature.		Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	Velocity.		Force.	CLOUDS. Amount.		Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.49	749.1	29.89	759.2	70.2	21.2	59	SE	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.37	746.0	29.87	758.7	76.3	24.6	45	S	.....	.....	2	.....	7	.....	.....	0.087	2.2	.....	Prof. Schiaparelli.
Padua	29.76	755.9	29.87	758.6	78.1	25.6	44	NE	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.5	29.87	758.7	75.2	24.0	47	W	4.3	1.9	.....	.....	5	W	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.73	755.1	29.92	759.9	72.5	22.5	71	SW	4.3	1.9	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.00	711.3	29.85	758.2	73.6	23.2	45	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.5	29.87	758.7	74.3	23.5	61	NE	9.4	4.2	.....	.....	8	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.67	753.5	29.91	759.8	79.7	26.5	55	S	.....	.....	2	.....	9	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.81	757.2	29.89	759.3	71.6	22.0	81	ENE	1.8	0.8	.....	.....	10	.....	.....	1.693	43.0	.....	Prof. P. Monte.
Rome	29.76	755.9	29.93	760.2	63.0	17.2	41	W	11.9	5.3	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.64	752.9	29.89	759.2	83.8	28.8	30	NNE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.3	29.86	758.5	83.8	28.8	60	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.4	29.93	760.2	78.3	25.7	65	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.3	29.94	760.5	75.6	24.2	62	NE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.82	757.3	29.89	759.1	84.2	29.0	53	S	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.98	761.6	76.6	24.8	62	WSW	8.1	3.6	.....	.....	3	W	.....	0	0	.....	Prof. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.6 m., or 1,245.4 ft.; Mondovi, 558 m., or 1,824 ft.; Urbino, 461 m., or 1,490 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.01	762.2	30.02	762.5	78.7	25.9	81	SSW	5.8	2.6	.....	.....	3s	.....	.....	0.006	0.15	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.04	763.0	77.9	25.5	85	S	0.5	0.2	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.92	759.9	29.99	761.7	78.8	26.0	78	SW	11.2	5.0	.....	.....	3s;ck	.....	.....	0	0	Fair	The Staff.
Wakayama	29.98	761.5	30.03	762.7	79.5	26.4	74	S	4.0	1.8	.....	.....	7ks;s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.6	30.07	763.8	58.1	14.5	78	SW	.....	.....	1	.....	8	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.45	621.1	30.10	764.6	62.1	16.7	79	NNW	.....	.....	1	1cs	0	NE	.....	0.03	0.05	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.6	30.06	763.4	57.2	14.0	82	Calm	0	0	.....	.....	10kn	.....	NE	0.32	8.2	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	59.5	15.3	81	NW	.....	.....	1	1s	0	.....	.....	0.04	1.1	Fine	M. V. de Leon, M. E
San Luis Potosi	29.93	760.2	29.94	760.5	77.9	25.5	89	SW	.....	.....	1	7	0	W	.....	0.31	7.9	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	24.26	616.2	30.15	765.9	64.0	17.8	75	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Puebla (Catholic Institute)	22.59	573.9	30.17	766.2	57.2	14.0	66	NE	.....	.....	2	1c	0	NE	.....	0	0	Clear	J. C. Castrillon.
Colima	23.44	595.4	30.21	767.2	63.8	12.1	82	E	2.2	1.0	.....	4s	0	SE	.....	0.60	15.1	Fair	Prof. P. Spina
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	29.67	753.5	29.95	760.8	78.1	25.6	92	NW	.....	.....	2	9n	0	NW	.....	0.43	11.0	Cloudy	Antonio Guerra y Guerra. F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.5	30.02	762.5	68.5	20.3	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.01	762.2	30.07	763.6	58.8	14.9	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.05	763.2	30.05	763.2	59.2	15.1	.....	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.5	30.02	762.5	68.7	20.4	67	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	29.98	761.5	30.03	762.7	66.0	18.9	69	NE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.92	759.9	29.97	761.3	57.2	14.0	67	NNW	11.0	4.9	.....	.. ....	3	.....	.....	0	0	.....	
Brönö	29.79	756.6	29.83	757.6	57.2	14.0	67	NNE	4	2	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.68	753.9	29.82	757.4	75.4	24.1	52	W	7	3	.....	.....	2	.....	.....	0.157	4.0	.....	
Tromsö	29.84	757.9	29.88	759.0	54.0	12.2	76	NE	18	8	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.12	765.1	30.30	769.7	76.3	24.6	82	W	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.96	735.6	29.93	760.3	84.2	29.0	33	W	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.00	762.0	30.09	764.2	73.2	22.9	70	SW	8.1	3.6	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.05	763 3	70.9	21.6	51	NNW	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	768.6	30.33	770.3	79.9	26.6	60	NE	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols: the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.03	762.8	62.1	16.7	.....	W	.....	.....	3	.....	0	.....	.....	1	W	Blue sky	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	.....	.....	29.95	760.7	77.0	25.0	.....	NE	.....	.....	3	.....	8	.....	NE	1	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.89	759.1	84.2	29.0	.....	SW	.....	.....	1	.....	0	.....	.....	0	.....	Blue sky	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.39	746.5	29.78	756.5	72.5	22.5	44	N	7	3	.....	.....	9cks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.26	743.1	29.65	753.2	71.6	22.1	42	NW	18	8	.....	.....	5	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.47	748.4	29.76	754.4	69.5	15.3	76	NNE	9	4	.....	.....	10ks	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.66	753.4	29 68	753.8	[illegible]	12.2	82	NNE	13	6	.....	.....	10n	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.99	736.5	29.60	751 8	7..1	21.7	48	W	7	3	.....	.....	4ck;ks	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.69	754.0	29.76	755.8	66.4	26.9	45	W	9	4	.....	.....	3ck;	.....	.....	.....	.....	Kurdakof.
Kertch	29.81	757.2	29.83	757.7	79.5	26.4	66	SSW	2	1	.....	.....	2	.....	.....	.....	.....	Lagorio.
Moscow	28.54	732.6	29.37	745.9	64.8	18.2	89	NW	7	3	.....	.....	10s	.....	.....	.....	Light rain..	Meteorological Obs.
Lugan	29.29	743.9	29.48	748.8	77.0	25.0	43	WSW	31	14	.....	.....	4	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.69	754.2	29.71	754.7	55.2	12.9	93	N	2	1	.....	.....	10	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.33	719.6	29.63	752.6	98.1	36.7	35	SE	4	2	.....	.....	3k	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.78	756.4	29.70	754.3	91.6	33.1	27	WNW	2	1	.....	.....	9s	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.03	737.3	29.48	748.7	66.4	19.1	77	W	0	0	.....	.....	10	.....	.....	.....	Light rain..	Cand. Fatjanow.
Kasan	29.21	741.8	29.46	748.2	76.1	24.5	56	SE	9	4	.....	.....	10	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.71	729.2	29.63	752.6	72.5	22.5	52	WSW	9	4	.....	.....	8k;cks;	ck].....	.....	.....	.....	Meteorological Obs.
Nukuss	29.70	754.3	29.91	759.8	93.2	34.0	27	NNE	9	4	.....	.....	0	.....	.....	.....	.....	
Tashkend	28.27	718.0	29.71	754.7	93.2	34.0	4[illegible]	NW	4	2	.....	.....	0	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.10	739.1	29.55	750.6	90.1	32.3	30	SE	0	0	.....	.....	10	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.44	747.7	29.71	754.7	70.9	21.6	71	NE	13	6	.....	.....	9	.....	.....	.....	Thunder-storm.	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.52	749.9	29.67	753.5	83.8	28.8	68	Calm	0	0	.....	.....	2ks	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.55	750.5	29.65	753.6	66.6	19.2	97	SE	13	6	.....	.....	10n	.....	.....	.....	Heavy fog..	
Nikolaievsk, on the Amoor	29.37	746.0	29.46	748.2	68.2	20.1	85	SE	11	5	.....	.....	10n	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.3	30.00	761.9	74.7	23.7	64	ESE	4.0	1.81	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.06	763.4	30.11	764.8	70.2	21.2	64	NW	1.9	0.86	.....	.....	10	.....	.....	0.071	1.8	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.6	.....	.....	69.8	21.0	57	NE	8.9	3.97	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.75	704.8	29.82	757.5	89.1	31.7	28	NW	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	87.8	31.0	55	SE	4.9	2.19	.....	2	5	SW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.1	30.06	763.5	62.6	17.0	72	NE	1.2	5.3	.....	.....	8	.....	.....	.0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.5	30.04	763.1	82.3	27.9	80	ESE	2.9	1.3	.....	1c	0	ENE	.....	0.189	4.8	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.82	757.3	82.4	28.0	84	S	0	0	.....	.....	1s	.....	E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.03	762.9	72.0	22.2	67	WNW	10.6	4.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.98	761.6	30.08	763.9	86.3	29.6	64	E	9.0	4.08	.....	2s	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.81	757.2	29.85	758.2	72.3	22.4	.....	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	29.85	758.3	29.91	759.6	69.8	21.0	30	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.84	757.9	29.89	759.2	70.5	21.4	61	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.67	753.1	29.75	755.6	73.8	23.2	32	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	29.72	754.9	29.78	756.4	67.3	19.6	74	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.5	29.79	756.7	74.1	23.4	40	NW	8.3	3.7	.....	.....	0	.....	.....	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N 49° 57', W 4° 51'	.....	.....	30.10	764.5	63.7	17.6	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.8	29.97	761.1	67.1	19.5	64	SSE	.....	.....	2	.....	9	.....	.....	0.299	7.6	Covered	The Observatory.
Zurich	28.36	720.3	29.94	760.5	70.9	21.6	70	W	.....	.....	1	.....	4	.....	.....	0.028	0.7	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −1.8 mm.; Thermometer, −3.1 Cent.; Relative Humidity, +11 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.7	79.0	26.1	46	NE	17	7.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	80.2	26.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.3	92.5	33.6	59	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29 81	757.2	29.87	758.7	53	11.7	82	N	12	5.4	.....	.....	10ks	.....	N	1.15	29.2	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.69	754.1	29.73	755.1	54	12.2	85	N	18	8.0	.....	.....	8n	.....	N	0.385	9.78	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.92	760.0	59.2	15.1	84	N	.....	.....	1	.....	9s	.....	.....	0.019	0.48	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.73	755.1	29.89	759.2	50	10.0	98	W	.....	.....	1	.....	10n	.....	.....	0.97	24.6	Light rain	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.93	760.2	48	8.9	92	W	12	5.4	.....	.....	10s	.....	E	0.04	1.0	Cloudy	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.90	759.4	56.4	13.6	61	N	6	2.7	.....	c	2ks	.....	NW	0.34	8.6	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.20	741.7	30.00	762.0	66	18.9	81	S	8	3.6	.....	2c	5ks	SW	SW	0	0	Fair	James Stewart.
Granton, Ontario	29.01	736.8	30.09	764.3	60	15.6	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.67	753.6	29.78	756.4	55	12.8	85	N	14	6.3	.....	.....	8ks	.....	N	0.253	6.43	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.72	754.9	30.08	764.0	61.9	16.6	84	W	.....	.....	1	2c	0	SE	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.98	761.5	64	17.8	62	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.87	761.1	29.91	762.1	56.4	13.6	86	N	12	5.4	.....	3k	0	N	.....	0.70	17.8	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.76	755.9	29.96	760.7	60	15.6	71	NE	3	1.3	.....	0	2ks	.....	.....	0.19	4.8	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.40	746.7	30.08	764.0	64	17.8	65	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.29	744.0	30.02	762.5	65.9	18.8	66	NE	.....	.....	2	0	0	.....	.....	0.10	2.5	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.39	746.5	30.07	763.8	61	16.1	89	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.62	752.3	29.97	761.6	58.6	14.7	.....	NW	15	6.7	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.07	763.8	60	15.6	87	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.65	753.1	29.96	761.0	54	12.2	87	NE	.....	.....	1	.....	8s	.....	NE	0.10	2.5	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.04	763.0	59	15.0	73	NW	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.2	54	12.2	72	N	.....	.....	1	0	0	.....	.....	0.19	4.8	Clear	Dr. Gove.
St. John, N. B	29.71	754.6	29.88	758.9	53	11.7	73	N	12	5.4	.....	0	0	.....	.....	0.16	4.1	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.39	746.5	30.09	764.3	65	18.3	76	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	K Stewart.
Stayner, Ontario	29.30	744.2	30.06	763.5	65	18.3	73	NW	15	6.7	.....	5k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.08	764.0	67.0	19.9	93	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.55	750.6	29.59	751.6	58	14.4	77	NW	7	3.1	.....	2ck	8ks	.....	N	0.47	11.9	Cloudy	T. C. Hill.
*Toronto, Ontario	29.69	754.1	30.06	763.5	65	18.3	69	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory
Windsor, N. S	29.75	755.6	29.84	757.9	55.5	13.1	84	NW	12	5.4	.....	.....	10nk	.....	.....	0.13	3.3	Overcast	Prof. John E. Oram.
Woodstock	29.60	736.6	30.04	763.0	61.7	16.5	77	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.44	747.8	29.68	753.9	57.0	13.9	100	NE	.....	.....	.....	Fog	Fog	.....	.....	1.20	30.5	Foggy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft. or 365 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.74	755.4	29.96	761.0	64	17.8	73	N	3	1.3	.....	4k	0	N	.....	0	0	Fair	
Alpena, Michigan	29.50	749.3	30.14	765.5	63	17.2	67	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	48	8.9	100	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.81	731.8	29.59	759.2	80	26.7	70	SW	9	4.0	.....	10c	Haze	Calm	Calm	0.38	9.7	Cloudy	
Atlantic City, New Jersey	29.95	760.7	29.96	761.0	68	20.0	65	N	9	4.0	.....	2ck	0	NW	.....	0	0	Clear	
Augusta, Georgia	29.74	755.4	29.93	760.2	79	26.1	87	Calm	0	0	.....	2cs	2s	NE	Calm	1.25	31.7	Fair	
Baltimore, Maryland	29.96	761.0	30.01	762.2	71	21.7	53	N	9	4.0	.....	2c	2s	NW	NW	0	0	Fair	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	68	20.0	65	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.20	716.3	30.06	763.5	66	18.9	84	SE	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
Boerne, Texas	28.52	724.4	29.76	755.9	79	26.1	70	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	57	13.9	47	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.80	756.9	29.95	760.7	64	17.8	68	E	10	4.5	.....	5k	0	NE	.....	0	0	Fair	
Brackettville, Texas	28.84	732.5	29.82	757.4	80	26.7	59	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.07	738.4	30.03	762.7	63	17.2	83	SE	11	4.9	.....	5ck	0	W	.....	0	0	Fair	
Brownsville, Texas	29.87	758.7	29.91	759.7	82	27.8	79	SE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.35	745.5	30.03	762.7	63	17.2	72	N	7	3.1	.....	1k	0	NE	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	36	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.67	753.6	29.96	761.0	56	13.3	94	NE	5	2.2	.....	.....	10n	.....	N	0.32	8.1	Light rain	
Cairo, Illinois	29.61	752.1	29.99	761.7	72	22.2	76	N	6	2.7	.....	2ck	5s	N	N	0	0	Fair	
Campo, California	27.45	697.2	30.02	762.5	41	5.0	91	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.90	759.4	29.90	759.4	77	25.0	86	NW	4	1.8	.....	.....	10s	.....	Calm	1.47	37.3	Cloudy	
Cape Henry, Virginia	29.91	759.7	29.93	760.2	73	22.8	81	N	21	9.4	.....	5ck	5s	W	W	0.05	1.3	Cloudy	
Cape Lookout, N. Carolina	29.88	758.9	29.89	759.2	80	26.7	82	W	20	8.9	.....	10k	0	W	.....	0.08	2.0	Cloudy	
Cape May, New Jersey	29.92	760.0	29.95	760.7	68	20.0	65	N	16	7.2	.....	2ck	0	NW	.....	0	0	Fair	
Castroville, Texas	29.16	740.7	29.83	757.7	79	26.1	74	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	29.86	758.4	29.92	760.0	82	27.8	75	SW	5	2.2	.....	5ck	2s	SW	Calm	0	0	Cloudy	
Charlotte, North Carolina	29.11	739.4	29.88	758.9	76	24.4	69	NE	10	4.5	.....	2cs	8s	Calm	NE	0	0	Cloudy	
Chattanooga, Tennessee	29.18	741.1	29.94	760.5	73	22.8	95	NW	4	1.8	.....	.....	10n	.....	W	1.02	25.9	Light rain	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	62	16.7	83	S	5	2.2	.....	.....	8ks	.....	S	0.02	0.5	Cloudy	
Chicago, Illinois	29.40	746.7	30.06	763.5	73	22.8	63	E	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Cincinnati, Ohio	29.44	747.8	30.07	763.8	69	20.6	61	NE	7	3.1	.....	7ck	0	NW	.....	0	0	Fair	
Cleveland, Ohio	29.36	745.7	30.06	763.5	66	18.9	69	N	5	2.2	.....	5k	0	N	.....	0	0	Fair	
Coleman City, Texas	28.12	714.2	29.69	754.1	77	25.0	65	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.24	742.7	30.05	763.3	74	23.3	51	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.03	711.9	29.62	752.3	76	24.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.93	760.2	78	25.6	78	S	2	0.9	.....	0	2ks	.....	Calm	0.20	5.1	Clear	
Davenport, Iowa	29.46	748.3	30.09	764.3	63	17.2	72	NE	7	3.1	.....	2cs	8s	NW	N	0	0	Cloudy	
Deadwood, Dakota	25.88	644.6	.....	.....	65	18.3	73	Calm	0	0	.....	2k	5s	Calm	Calm	0	0	Fair	
Decatur, Texas	28.77	730.7	29.87	758.7	78	25.6	65	SE	7	3.1	.....	8ck	0	Calm	.....	0	0	Cloudy	
Denison, Texas	29.13	739.9	29.89	759.2	75	23.9	91	SE	8	1.8	.....	.....	10ks	.....	E	0.22	5.6	Cloudy	
Denver, Colorado	24.82	630.4	30.04	763.0	61	16.1	82	S	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Des Moines, Iowa	29.20	741.7	30.05	763.3	68	20.0	79	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Detroit, Michigan	29.44	747.8	30.10	764.5	63	17.2	72	NE	8	3.6	.....	1k	0	N	.....	0	0	Clear	
Dodge City, Kansas	27.38	695.4	29.54	750.3	72	22.2	80	SE	8	3.6	.....	.....	10ks	.....	W	2.00	50.8	Cloudy	
Dubuque, Iowa	29.44	747.8	30.13	765.3	63	17.2	67	NE	4	1.8	.....	5ck	0	N	.....	0	0	Fair	
Duluth, Minnesota	29.52	749.8	30.18	766.6	61	16.1	77	NE	6	2.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texa	29.15	740.4	29.84	757.9	80	26.7	62	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.83	757.7	29.90	759.4	53	11.7	67	NW	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	87	S	.....	.....	1	2c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.24	666.5	.....	.....	71	21.7	33	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.35	745.5	30.04	763.0	68	20.0	65	NE	3	1.3	.....	5k	0	N	.....	0	0	Fair	
Escanaba, Michigan	29.54	750.3	30.19	766.8	57	13.9	75	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.47	723.1	30.07	763.8	80	26.7	41	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.84	707.1	.....	.....	66	18.9	73	NE	8	3.6	.....	5c	0	Calm	.....	0.36	9.1	Fair	
Fort Davis, Texas	25.24	641.1	30.20	767.1	74	23.3	32	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759.7	78	25.6	78	N	9	4.0	.....	8ck	2s	E	E	0	0	Cloudy	
Fort Grant, Arizona	25.30	642.6	30.10	764.5	72	22.2	62	E	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Griffin, Texas	28.66	728.0	29.87	758.7	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.33	694.2	.....	.....	68	20.0	84	Calm	0	0	.....	2ck	0	Calm	.....	1.28	32.5	Clear	
Fort McKavett, Texas	27.71	703.8	29.52	749.8	80	26.7	59	S	8	3.6	.....	5ck	2s	SW	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.76	755.9	74	23.3	86	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Stevenson, Dakota	28.06	712.7	.....	.....	65	18.3	78	SE	12	5.4	.....	0	8s	.....	SE	0.01	0.3	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	64	17.8	89	NW	.....	.....	1	2cs	0	W	.....	0.32	8.1	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.63	754.1	80	26.7	62	S	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.93	760.2	29.97	761.2	82	27.8	79	SW	8	3.6	.....	5ck	5ks	E	SW	1.47	37.3	Cloudy	
Graham, Texas	28.84	732.5	29.84	757.9	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0.26	6.6	Clear	
Grand Haven, Michigan	29.46	748.3	30.10	764.5	62	16.7	72	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.95	735.3	29.85	758.2	75	23.9	81	E	4	1.8	.....	0	8s	.....	E	0	0	Cloudy	
Indianapolis, Indiana	29.29	744.0	30.04	763.0	70	21.1	57	NE	7	3.1	.....	5ck	0	W	.....	0	0	Fair	
Indianola, Texas	29.95	760.7	29.97	761.2	83	28.3	79	S	12	5.4	.....	5cs	5s	Calm	S	0	0	Cloudy	
Jacksboro, Texas	28.78	731.0	29.84	757.9	85	29.4	61	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.03	762.7	85	29.4	68	SW	5	2.2	.....	0	0	.....	.....	0.21	5.3	Clear	
Keokuk, Iowa	29.42	747.3	30.02	762.5	66	18.9	69	E	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.02	762.5	30.05	763.3	85	29.4	72	SE	6	2.7	.....	1k	0	SE	.....	0	0	Clear	
Kittyhawk, North Carolina	29.82	757.4	29.84	757.9	74	23.3	90	NE	9	4.0	.....	.....	10s	.....	NE	0.15	3.8	Cloudy	
Knoxville, Tennessee	29.00	736.6	29.96	761.0	71.5	21.9	93	NE	1	0.4	.....	.....	10n	.....	NW	0.07	1.8	Light rain	
La Crosse, Wisconsin	29.40	746.7	30.12	765.0	65	18.3	84	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	68	20.0	65	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Laredo, Texas	29.49	749.0	29.81	757.2	81	27.2	56	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.17	740.9	29.97	761.2	70	21.1	75	E	6	2.7	.....	10cs	0	N	.....	0	0	Cloudy	
Little Rock, Arkansas	29.63	752.6	29.97	761.2	78	25.6	80	NE	2	0.9	.....	5ck	5ks	Calm	Calm	0	0	Cloudy	
Los Angeles, California	29.65	753.1	29.99	761.7	63.0	17.2	83	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.47	748.5	30.01	762.2	70	21.1	53	E	9	4.0	.....	5ck	5s	Calm	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.32	744.7	29.96	761.0	77	25.0	45	NE	4	1.8	.....	10ck	0	W	.....	0	0	Cloudy	
Madison, Wisconsin	29.14	740.1	30.11	764.8	59	15.0	82	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.49	749.0	30.18	766.6	58	14.4	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.32	719.3	29.98	761.5	82	27.8	56	SW	3	1.3	.....	2cs	0	E	.....	0	0	Fair	
Memphis, Tennessee	29.62	752.3	29.94	760.5	75	23.9	95	NE	5	2.2	.....	.....	10s	.....	NE	0.55	14.0	Cloudy	
Milwaukee, Wisconsin	29.40	746.7	30.11	764.8	63	17.2	72	NE	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	29.97	761.2	30.01	762.2	79	26.1	87	W	4	1.8	.....	10cs	0	Calm	.....	0.49	12.4	Cloudy	
Montgomery, Alabama	29.78	756.4	30.00	762.0	80	26.7	82	SW	6	2.7	.....	2k	2ks	SW	SW	0	0	Fair	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.06	738.1	30.01	762.2	72	22.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.77	603.8	30.13	765.3	35	1.7	80	E	1	0.4	.....	8k	0	Calm	.....	0.48	12.2	Fair	
Nashville, Tennessee.....	29.42	747.3	29.92	760.0	77	25.0	62	NE	1	0.4	.....	.....	10ks	.....	NE	0.25	6.3	Cloudy	
New Haven, Connecticut....	29.83	757.7	29.94	760.5	67	19.4	69	N	5	2.2	.....	5ck	0	Calm	.....	0	0	Fair.....	
New London, Connecticut....	29.89	759.2	29.94	760.5	70	21.1	66	N	4	1.8	.....	2k	0	NE	.....	0	0	Clear.....	
New Orleans, Louisiana.....	29.94	760.5	30.00	762.0	81	27.2	83	S	3	1.3	.....	0	Sm'e	.....	Calm	0.19	4.8	Smoky.....	
Newport, Rhode Island.....	29.89	759.2	29.94	760.5	66.5	19.2	67	N	6	2.7	.....	5k	0	NE	.....	0	0	Fair	
New York, New York.....	29.78	756.4	29.96	761.0	69	20.6	60	NW	6	2.7	....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Norfolk, Virginia.....	29.88	758.9	29.94	760.5	74	23.3	81	NE	9	4.0	.....	.....	10s	.....	W	0.66	16.8	Cloudy	
North Platte, Nebraska	27.12	688.8	29.61	752.1	62	16.7	97	SE	12	5.4	.....	.....	Fog	.....	SE	0	0	Foggy	
Olympia, Washington Ter..	30.09	762.0	30.04	763.0	48	8.9	89	NE	1	0.4	.....	8cs;k	0	W;NW	.....	0	0	Fair.....	
Omaha, Nebraska.....	28.90	734.0	29.96	761.0	70	21.1	80	E	5	2.2	.....	5k	5s	NW	Calm	0.02	0.5	Cloudy	
Oswego, New York.....	29.69	754.1	30.01	762.2	64	17.8	73	N	8	3.6	.....	2c	0	N	.....	0	0	Fair.....	
Pembina, Dakota.....	29.14	740.1	29.94	760.5	63	17.2	89	S	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy.....	
Philadelphia, Pa.....	29.92	760.0	29.97	761.2	67	19.4	60	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona.....	28.73	729.7	30.43	772.9	81	27.2	59	NE	1	0.4	.....	2cs	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	39	3.9	64	W	11	4.9	.....	1k	0	Calm	.....	0.26	6.6	Clear	
Pilot Point, Texas.....	29.15	740.4	29.94	760.5	88	31.1	69	SE	13	5.8	.....	2k	0	S	.....	0	0	Fair.....	
Pioche, Nevada.....	.....	.....	.....	.....	65	18.3	40	S	6	2.7	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Pittsburg, Pennsylvania.....	29.26	743.2	30.05	763.3	61	16.1	77	NE	3	1.3	.....	0	Fog	.....	.....	0	0	Clear.....	
Fort Huron, Michigan.....	29.44	747.8	30.08	764.0	62	16.7	83	N	8	3.6	.....	5k	0	W	.....	0	0	Fair	
Portland, Maine.....	29.90	759.4	29.96	760.7	60	15.6	71	NE	5	2.2	.....	5k	0	Calm	.....	0	0	Fair	
Portland, Oregon.....	29.99	761.7	30.07	763.8	55.5	13.1	90	NW	1	0.4	.....	2cs	6s	Calm	SW	0	0	Cloudy.....	
Prescott, Arizona.....	24.83	630.7	30.19	766.8	61	16.1	71	W	.....	.....	1	0	0	.....	.....	0.39	9.9	Clear.....	
Punta Rassa, Florida.....	30.05	763.3	30.06	763.5	85	29.4	68	S	11	4.9	.....	2k	0	S	.....	0	0	Fair	
Red Bluff, California.....	29.49	749.0	29.83	757.7	69	20.6	43	NW	1	0.4	.....	1c	0	W	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.72	754.9	29.92	760.0	80	26.7	74	SE	7	3.1	.....	5c	0	Calm	.....	0	0	Fair	
Rochester, New York.....	29.43	747.5	30.02	762.5	65	18.3	83	N	7	3.1	.....	2k	0	NW	.....	0	0	Clear.....	
*Roseburg, Oregon.....	29.52	749.8	30.08	764.0	54	12.2	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California.....	29.76	755.9	29.84	757.9	69	15.0	70	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.46	748.3	30.02	762.5	62	16.7	77	NE	11	4.9	.....	.....	10s	.....	SW	0.31	7.9	Cloudy.....	
St. Marks, Florida.....	30.02	762.5	30.04	763.0	80	26.7	87	NW	4	1.8	.....	Haze	1ks	Calm	Calm	0	0	Clear.....	
St. Paul, Minnesota.....	29.27	743.4	30.08	764.0	64	17.8	73	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah.....	25.58	649.7	29.91	759.7	75	23.9	33	Calm	0	0	.....	8k	0	SW	.....	0	0	Cloudy.....	
San Antonio, Texas.....	29.29	744.0	29.84	757.9	80	26.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.94	760.5	30.01	762.2	61	16.1	88	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.44	747.8	30.09	764.3	67	19.4	64	NE	15	6.7	.....	2k	0	NE	.....	0	0	Fair.....	
Sandy Hook, New Jersey....	29.92	760.0	29.95	760.7	65	18.3	73	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California..	29.86	758.4	29.92	760.0	55	12.8	87	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico.....	23.40	594.4	29.94	760.5	62	16.7	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia.....	29.88	758.9	29.96	761.0	86	30.0	68	W	11	4.9	.....	2c	0	W	.....	0	0	Fair.....	
Shreveport, Louisiana.....	29.76	755.9	29.96	761.0	77	25.0	82	S	4	1.8	.....	8ck	0	Calm	.....	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina.	29.90	759.4	29.94	760.5	78	25.6	95	S	13	5.8	.....	8cs	0	W	.....	0.71	18.0	Cloudy	
Socorro, New Mexico..	25.43	645.9	29.49	749.0	72	22.2	46	N	2	0.9	.....	5ck	2s	Calm	Calm	0	0	Cloudy.....	
Springfield, Ill	29.40	746.7	30.07	763.8	62	16.7	83	NE	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Springfield, Massachusetts	29.82	757.4	29.94	760.5	68	20.0	60	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas.....	26.87	682.5	29.87	758.7	79	26.1	27	SE	5	3.6	.. ....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.94	760.5	29.99	761.7	63	17.2	78	E	12	5.4	.....	5k	0	NE	.....	0	0	Fair	
Toledo, Ohio, ...	29.41	747.0	30.08	764.0	64	17.8	78	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.43	696.7	29.98	761.5	78	25.6	69	Calm	0	0	.....	5c	0	Calm	.....	0.06	1.5	Fair	
Umatilla, Oregon.....	29.62	752.3	30.10	764.5	59.0	15.0	59	E	6	2.7	.....	2ck	5ks	W	W	0	0	Fair.....	
Uvalde, Texas.....	29.02	737.1	29.80	756.9	81	27.2	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.75	755.6	30.00	762.0	78	25.6	82	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana.....	24.29	617.0	29.77	756.1	55	12.8	62	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.48	748.8	29.84	757.9	65	18.3	63	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.....	29.89	759.2	30.00	762.0	69	20.6	56	N	12	5.4	.....	3cs;c	0	NW	.....	0	0	Fair.	
Wickenburg, Arizona..	.....	.....	.....	.....	72	22.2	46	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	29.81	757.2	29.88	758.9	79	26.1	82	SW	4	1.8	.....	8ck	0	Calm	.....	0.09	2.3	Fair.....	
Winnemucca, Nevada.....	25.62	650.7	29.98	761.5	57	13.9	41	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.....	
Wood's Holl, Mass.....	29.89	759.2	29.93	760.2	64	17.8	72	E	10	4.5	.....	.....	8ks	.....	NE	0	0	Cloudy.....	
Yankton, Dakota.....	28.76	730.5	30.00	762.0	67	19.4	84	SE	2	0.9	.....	10cs	0	S	.....	0.05	1.3	Cloudy.....	
Yuma, Arizona.....	29.70	754.4	29.85	758.2	76	24.4	64	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.24	641.1	.....	.....	67.0	19.4	82	Calm	.....	.....	0	8cs	2ks	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I.....	29.95	760.7	30.03	762.7	82	27.8	.....	NE	.....	.....	.....	.....	.....	.....	.....	0.02	0.5	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	80	26.7	87	E	.....	.....	2	5k	6ks	E	.....	0.290	7.37	¼ Clouded..	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 318 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625(?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,551 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,490 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-Swell. Character.	Sea-Swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡			84	28.9	91	SW	3	1.3			5?		SE	0	0			Threat'ing?	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡			78	25.6	84	SW			4		2k		W	0	0			Fair	
Adams. N. 36° 25′, W. 121° 53′	29.99‡	761.7‡			56	13.3	100	NW			3		0					Rough	NW	Clear	
Alliance, Antwerp, Belgium	30.00‡	762.0‡			69	20.6	70	NE			4		7		NE					D. clouds	
Ashuelot, Yokohama, Japan	29.99‡	761.7‡			77	25.0	91	SSE			3		5		SSE			Mod'ate	S	Fair	
Colorado, New York, N. Y.	29.93‡	760.2‡			68	20.0	65	NNW	2	0.9			0			0	0			Clear	
Constellation, Portland, Maine	29.95‡	760.7‡			57	13.9	75	NE			3		2		Calm	Very light	Very light			Clear	
Constitution, League Isl. Navy Yard, Pa.	29.95‡	761.5‡			69	20.6	65	NW			1		1		Calm					Clear	
Enterprise, Cronstadt, Russia	29.66‡	753.4‡			56	13.3	87	N			4		10		N	0	0			Cloudy	
Franklin, Norfolk, Va.	29.92‡	760.0‡			75	23.9	81	NNE	9.6	4.3			10		NNE	0.75	19.1			Cloudy	
Hartford Montevideo, Uruguay	29.95‡	760.7‡			60	15.6	82	NW			6		10		NW	0	0			Cloudy	
Independence, Mar. I'd. Navy Yard, Cal.	29.91‡	759.7‡			62	16.7	100	SW	11	4.9			0		SW?					Clear	
Kearsarge, N. 46° 29′ W. 50° 22′	29.55‡	750.6‡			59	15.0	70	SW			2		10					Smooth		Foggy	
Michigan, Erie, Pa.	29.99‡	761.7‡			67	19.4	74	N			2		5		N					Fair	
Monocacy, Shanghai, China	29.85‡	758.2‡			84	28.9	83	SSE			2		2							Fair	
Monongahela, Yokohama, Japan	30.02‡	762.5‡			79	26.1	82	SE			3		k			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.94‡	760.5‡			82	27.8	79	WSW	17	7.6			5		SW	0	0			Fair	
Onward, Callao, Peru	30.01‡	762.2‡			61	16.1	88	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.83‡	757.7‡			81	27.2	91	SSE			2		2							Fair	
Passaic, Washington, D. C.					71	21.7	100	NE			2		2							Clear	
Pensacola, Callao, Peru	30.00‡	762.0‡			61	16.1	94	Calm	0	0			10					Smooth		Overcast	
Portsmouth, Boston, Mass.	29.96‡	761.0‡			65	18.3	100	NE			4		5		Calm	0	0			Fair	
Powhatan, Portland, Me.	29.92‡	760.0‡			60	15.6	71	NE			2		2		Calm	0	0			Fair	
Quinnebaug, Constantinople, Turkey	29.84‡	757.9‡			76	24.4	52	NE			5		0							Clear	
Ranger, N. 22° 25′, E. 115° 16′	29.90‡	759.4‡			85	29.4	83	ESE			2–3		0					Smooth		Clear	
Richmond, Yokohama, Japan	30.01‡	762.2‡			78	25.6	100	SSW			3		2		SSW	0	0	Smooth	SSW	Fair	
Rio Bravo, Brownsville, Texas	29.92‡	760.0‡			80	26.7	96	SE			1		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.00‡	762.0‡			69	20.6	75	N			2		2		NW	0	0			Clear	
Saratoga, Off Montauk, Long Isld., N.Y.	29.86‡	758.4‡			67	19.4	89	NE			4		2		NE	0	0			D. clouds	
St. Louis, League Island, Pa	29.95‡	760.7‡			70	21.1	66	NNE	7	3.1			2		Calm	0	0			Clear	
Trenton, Flushing, Netherlands	30.01‡	762.2‡			68	20.0	70	NE			2–3		5		Calm	0	0	Smooth		Fair	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.92‡	760.0‡			59	15.0	94	SSW			4		0			0	0	Smooth		Blue sky	
Vandalia, Newport, R. I.	29.99‡	761.7‡			66	18.9	79	NE			3		5		SE					Fair	
Wabash, Boston, Mass.	29.96‡	761.0‡			62	16.7	72	NE	6	2.7			5			0	0			Fair	
Wyoming, N. 43° 09′, E. 14° 05′	29.88‡	758.9‡			76	24.4	49	ENE			0–1		5		E			Smooth	E	Clear	
Wachusett, New Orleans, La.	29.98‡	761.5			81	27.2	87	S			2		2		SW					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 17° 24', W. 101° 31'..†		29.97‡	761.2‡	81	27.2	91	NW			2		8		N	0	Small	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 8° 31', W. 162° 44'..		29.93‡	760.2‡				ENE			1		10		SE		Mod'ate	SE		R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 39° 18', W. 136° 31'....		30.15‡	765.8‡	63	17.2	94	SW			4		7cs			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson, N. 40° 27', E. 152° 10'....†.		30.00‡	762.0‡	71	21.7	75	SW			3		4cs mist.			0	Smooth	W	Foggy	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Unddtsch.
S. S. Leipzig, Capt. F. Peiffer, N. 40° 04', W. 65° 38'.....		29.86‡	758.4‡	65.0	18.3	92	NNE			4		2		NNE	0	Smooth	NNE	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 21', W. 1° 32'.....		30.03‡	762.7‡				NNE			1		5		E		3	W	Cloudy†	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 5; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—.					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 18′, W. 15° 16′		29.94‡	760.5‡	56	13.3	81	SW			6		4		S	Mod'ate	Mod'ate	S	Cloudy?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 43° 29′, W. 50° 39′		29.61‡	752.1‡				SW	25	11.2			5		WSW		Long	SSW	Foggy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 32° 33′, W. 77° 24′		29.91‡	759.7‡	84	28.9	83	WSW	10	4.5			1⅜		N	0	Rough	SW	Overcast	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 28° 11′, W. 69° 53′ †		30.20‡	767.1‡				SSW			1		2			Blank	Smooth		Fine	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:4 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.93	760.1	66.7	19.3	.....	NE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	
Nemours	.....	.....	29.99	761.8	82.4	28.0	65	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Kesxuche.
Algiers	.....	.....	29.98	761.4	77.4	25.2	77	NNE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Touriliere.
La Calle	.....	.....	30.01	762.2	82.8	28.2	82	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.98	761.4	90.5	32.5	21	NNW.	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	29.97	761.2	94.3	34.6	22	W	.....	.....	5	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	29.97	761.3	85.8	29.9	31	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	Brugniaux.
Laghouat	.....	.....	29.93	760.2	103.6	39.8	26	SSW	.....	.....	6	.....	2	.....	.....	0	0	Fair.....	Bertrand.
Biskra	.....	.....	29.91	759.6	102.2	39.0	16	NW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy.....	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.38	746.2	29.91	759.6	75.6	24.2	47	S	.....	.....	2	.....	6	.....	.....	0	0	.....	.....
Cracow, I. R. Observatory	29.17	740.8	29.92	759.9	64.4	18.0	75	WSW	4.0	1.8	.....	.....	9	.....	.....	0.169	4.3	.....	Prof. Ivan Stozir.
Eperies	29.02	737.0	29.86	758.4	71.6	22.0	59	Calm	.....	.....	0	.....	8ks	.....	S	0.429	10.90	.....	Prof. Dr. Karlinski, Dir.
Gratz	28.78	729.8	29.94	760.4	72.3	22.4	63	SSW	.....	.....	3	.....	3	.....	.....	0	0	.....	Julius Mikolik.
Hermannstadt	28.44	722.1	29.78	756.5	76.5	24.7	81	N	.....	.....	3	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	28.61	726.7	29.89	759.3	73.8	23.2	66	SSE	.....	.....	1	.....	8	.....	.....	0.106	2.7	.....	Prof. A. Gottschling.
Lemberg	28.86	732.7	29.80	756 8	68.7	20.4	61	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Pola	29.82	757.3	29.92	760.0	78.8	26.0	54	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. T Stanecki.
Szathmar	29.45	747.9	29.89	759.2	75.7	24.3	50	NE	.....	.....	1	.....	6	.....	.....	0	0	Thunder.....	I.R.HydrographicOffice.
Szegedin	29.54	750.4	29.81	757.1	76.3	24.6	57	NE	.....	.....	1	.....	4	.....	.....	0	0	.....	Julius Csics, S. J.
Trieste	29.83	757.6	29.93	760.2	81.3	27.4	39	ENE	.....	.....	1	.....	3	.....	.....	0	0	Almost clear	Karl Stancel.
Vienna	29.24	742.7	29.94	760.4	73.9	23.3	48	NNW	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.76	755.9	29.86	758.4	53.6	12.0	.....	SSE	7	3.1	.....	.....	10	.....	.....	0.095	2.42	Raining	W. Boswell.
Ardrossan	29.80	756.9	29.82	757.4	55	12.8	.....	SSW	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	Wm. McNeil & G. Carrick
Armagh, Observatory	29.60	751.8	29.82	757.4	58.7	14.8	.....	S	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.91	759.7	56.6	13.7	.....	WNW	3	1.3	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.88	758.9	61.6	16.4	.....	SSW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.92	760.0	60.7	15.9	.....	W	.....	.....	0	.....	10	.....	.....	0.01	0.3	Overcast.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	83	28.3	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.88	758.9	29.98	761.5	72.0	22.2	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	H. Todd.
Cardington	.....	.....	29.94	760.5	72.4	22.4	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.87	758.7	30.00	762.0	68.0	17.2	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast.....	J. Carmoll, Sapper, R. E.
Donaghadee	29.79	756.7	29.83	757.7	60	15.6	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.96	761.0	29.99	761.7	62	16.7	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	⅜ clouded...	J. Costello.
Falmouth, Observatory	29.79	756.7	30.02	762.5	59.0	15.0	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	27.46	697.5	29.75	755.6	73.6	23.1	.....	W	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	77	25.0	.....	SW	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.77	756.1	58	14.4	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.7	30.00	762.0	*79.5	26.4	.....	E	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.61	752.1	29.82	757.4	57.1	13.9	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	30.01	762.2	30.01	762.2	61	16.1	.....	SE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.81	757.2	29.98	761.5	70.2	21.2	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.81	757.2	30.03	762.7	62.5	16.9	.....	WNW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.95	760.7	30.06	763.5	62	16.7	.....	SW	.....	.....	2	.....	8k	.....	.....	.....	.....	Light rain...	M. P. Moyle.
Holyhead	29.87	758.7	29.88	758.9	58	14.4	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.79	756.7	30.08	764.0	63.0	17.2	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.94	760.5	29.98	761.5	64.6	17.8	.....	SSW	8	3.6	.....	.....	10	.....	.....	.....	.....	Drizzling.....	The Met'g'l Office.
Leicester, Museum	29.70	754.4	29.95	760.7	65.0	18.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.82	757.4	29.90	759.4	79.6	26.4	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.69	754.1	29.78	756.4	61	16.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.07	763.8	83.5	28.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.76	755.9	29.95	760.7	67.2	19.6	.....	S	.....	.....	3	.....	10kd	.....	S	0.038	0.96	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.42	747.8	29.94	760.5	62.9	17.2	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761.2	65	18.3	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.94	760.5	30.01	762.2	61.1	16.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.82	757.4	29.93	760.2	61	16.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Covered.....	Wm. Kennedy.
Saint Ann's Head	29.78	756.4	29 94	760.5	56	13.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.82	757.4	53	11.7	.....	SE	25	11.2	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.75	755.6	29.81	757.2	86.8	30.4	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't W. H. Lyne.
Sheffield	29.71	754.6	29.98	761.5	62.0	16.7	.....	SSW	.....	.....	1	.....	10	.....	.....	0.55	14.0	Raining.....	W. F. Cooper.
Silloth Rectory	29.85	758.2	29.88	758.9	58.6	14.8	89	W	.....	.....	1	.....	7	.....	.....	0.250	6.35	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.92	760.0	58.6	14.8	.....	SW	2	0.9	.....	.....	10	.....	.....	Blank	Blank	Overcast.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.79	756.7	30.00	762.0	67.0	19.4	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.03	762.7	30.05	763.3	62	16.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	29.84	757.9	29.86	758.4	60.6	15.9	.....	WSW	12	5.4	.....	.....	10	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.24	768.1	30.28	769.1	62.8	17.1	74	NW	13.6	6.1	.....	0	1	.....	.....	0	0	Fair.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.34	770.6	41	5.0	92	NE	.....	.....	2	.....	6k	.....	.....	0.07	1.8	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.85	758.2	59.0	15.0	.....	SW	.....	.....	1	.....	10ks	.....	.....	0.15	3.8	Showery.....	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.1	69.2	20.7	66	S	15.0	6.7	.....	0	7	.....	SE	0.09	2.3	Cloudy.....	C. Meldrum.
Melbourne, Observatory	30.28	769.1	30.37	771.4	45.0	7.2	98	SSE	1	0.4	.....	.....	0	.....	.....	0	0	Foggy	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

VESSELS.

	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00′. E. 29° 00′	.....	.....	29.85‡	758.2‡	78	25.6	.....	ENE	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. W. J. L. Wharton.
Agnes Wilson, N. 43° 55′, W. 39° 55′	.....	.....	30.09	764.3	73	22.8	.....	SW	.....	.....	5	.....	10	.....	.....	3	WSW	Misty.....	Capt. H. W. Dyke.
Astarte, N. 54° 50′, W. 17° 30′ ..... *	.....	.....	29.71‡	754.6‡	56	13.3	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Capt. Parson.
Barque Commewyne, N. 21° 45′, W. 58° 15′	.....	.....	30.10	764.5	82	27.8	.....	E	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. A. Buchan.
Theophane, S. 14° 05′, W. 9° 00′	.....	.....	30.18‡	766.6‡	71.4	21.9	.....	ESE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance, §	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	64.4	18.0	90	NE			2	9k;ck		NE		0.9	23.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.90	759.5	29.95	760.7	62.8	17.1	64	NW			2		5						
Fanöe	29.98	761.6	30.00	762.1	58.6	14.8	71	W			4		9						
Godthaab (Greenland)	30.00	761.9	30.04	763.0	40.3	4.6	92	WSW			3		1						Foggy
Stykkisholm (Iceland)	29.91	759.8	29.96	760.9	52.9	11.6	69	SE			4		8						
Thorshavn (Faröe)	29.91	759.7	29.95	760.6	51.6	10.9	81	NE			2		10						
Vestervig	29.82	757.3	29.93	760.1	59.2	15.1	78	WNW			4		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.2	30.00	764.2	66.9	19.4	72	W			1		5		W	0.429	10.9	Cloudy	Collignon, Director.
Amiens, Normal School	29.87	758.6	29.97	761.2	77.7	25.4	63	ESE			1		5		N	0.228	5.8	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.74	755.5	30.00	761.9	71.6	22.0	66	E			1		10		SE	0.433	11.0	Covered	Klein, Commandant.
Avignon, Normal School	29.85	758.2	29.93	760.2	80.6	27	49	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.44	747.7	29.97	761.2	73.6	23.1	58	NW			1		8kn		NW	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.72	755.0	29.96	761.4	73.6	23.1	72	SW			1		8		SW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.13	739.9	29.99	761.8	73.9	23.3	67	SW			1		2		SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.1	30.11	764.8	72.7	22.6	59	N			1		km	S	S	0	0		Marlot, Director.
Bourges, Normal School	29.48	748.7	30.02	762.4	70.2	21.2	75	W			1		2ks	WNW	WNW	0.12	3.	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.78	756.4	30.02	762.6	66.6	19.2	81	WSW			1		8		W	0.020	0.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.63	752.7	30.03	762.8	74.3	23.5	86	WNW			2		5	NW	NW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.97	761.2	30.04	763.1	66.9	19.4	72	NW			1				W	0	0		Lair, Director.
Chartres, Normal School	29.43	747.4	29.98	761.4	71.2	21.8	70	WNW			1		8		SSE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.68	753.9	29.99	761.7	73.0	22.8	68	SW			1		10			0	0	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.8	30.02	762.5	66.2	19.0	68	W			1		10		W	0	0		Alluard, Director.
Commercy, Normal School	29.13	739.8	30.03	762.8	73.9	23.3	59	NW			1		6ck	NW	NW	0.031	0.8	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.89	733.7	30.03	762.7	73.0	22.8	49	W			2		8		W	0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.1	30.00	762.0	72.0	22.2	66	W			1		2k		NW	0.059	1.5	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.88	759.0	30.10	764.4	68.0	20.0	74	W			1		8		WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.76	755.8	30.07	763.6	64.0	17.8	84	NW			1		8		NW	0.177	4.5	Very cloudy	Poirrier, Director
Lens-Le-Saulnier, N. School	29.11	739.4	30.00	762.0	74.3	23.5	61	NNW			1		5k		SSW	0.08	2.	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.00	761.9	30.10	764.4	66.9	19.4	68	SW			3				SW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galxin. Director.
Marseilles, Observatory	29.67	753.5	29.93	760.2	75.9	24.4	45	SSW			1-2		4		NW	0	0		E. Stephan, Director
Mirecourt, Normal School	28.98	736.1	30.00	762.0	65.8	18.8	94	N			1		2		N	0	0	Slightly cl'dy	Barbier, Director
Mont-Louis	24.94	633.4	30.25	768.4	58.1	14.5	73	NE	18.6	8.3			8			0	0		M. Cave.
Nismes, Normal School	29.77	756.2	29.97	761.2	79.9	26.6	36	NW			1		2		N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.72	754.8	70.9	21.6	72	WSW			1		8		W	0	0		Marie Davy, Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.63	574.7			50.9	10.5		W			2		7			0	0	Fair	Gen'l de Nansouty.
Perpignan	29.93	760.2	30.03	762.8	74.8	23.8	46	NE	15.0	6.7			1	NW		0	0		Dr. Fines.
Privas, Normal School	29.93	760.1																	Cantier, Director.
Puy de Dome (Summit) Obs	25.26	641.7			47.1	8.4	100	W			1		10			0.102	2.6		Alluard, Director.
Rochefort, Naval Obs'y	30.07	763.6	30.10	764.4	72.1	22.3	62	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.94	760.5	30.03	762.7	64.0	17.8	84	WNW			1		10		NW	0.083	2.1	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.02	762.4	30.05	763.2	64.6	18.1	80	NW			1		8	NW	NW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.83	757.6	29.99	761.8	70.9	26.1	77	WSW			0-1		9		W	0	0		E. Renou, Director.
Tarbes, Normal School	29.07	738.3	30.12	765.0	72.5	22.5	62	SW			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.41	747.0	30.13	765.4	68.4	20.2	62	NW			2		8		NW	0	0		M. Julier Mercadier.
Tours	29.86	758.2	30.05	763.2	71.6	22.0	58	W			1		6		WNW	0	0		Cousin-Marquet.
Versailles, Observatory	29.52	745.8	30.02	762.4	70.5	21.4	75	NW			2					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.4	29.99	761.8	74.8	23.8	61	WNW			1		5		SE	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	757.8	29.86	758.5	79.5	26.4													
Lyons Obs'y (Park Station)	29.39	746.6	29.99	761.8	72.3	22.4	55	NW			1		8		SSE	0.31	8.		L'Abbé Marchési.
Nice			29.97	761.3	75.6	24.2	67	SE			2		2			0.010	0.25	Very cloudy	Ch. André, Director.
Zi-Ka-Wei (near Shanghai)	29.80	756.9	29.82	757.5	82.2	27.9	81	SE	11.9	5.3			0			0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
																0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,814 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	736.8	29.97	761.2	74.1	23.4	45	NE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.83	757.6	29.99	761.8	71.2	21.8	60	N	.....	.....	1	.....	7	.....	.....	0.051	1.3	Thunder-storm.	Prof. Dr. Arndt.
Breslau	29.45	748.0	29.98	761.5	73.2	22.9	48	NW	.....	.....	3	.....	6	.....	.....	0	0	.....	Royal University Ob's'y.
Carlsruhe	29.67	753.1	29.98	761.5	75.2	24.0	58	NE	.....	.....	0	.....	5	NW	.....	0	0	.....	Albert Sens.
Cassel	29.41	747.1	30.02	762.6	71.2	21.8	49	N	.....	.....	2	.....	4	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.84	758.0	30.00	762.1	67.6	19.8	62	N	.....	.....	2	.....	6k	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.07	763.6	63.0	17.2	65	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.61	752.0	29.97	761.2	77.5	25.3	.....	SE	.....	.....	1	.....	4	.....	.....	0.016	0.4	.....	Physical Society.
Freienwalde on the Oder	29.93	760.3	29.97	761.3	71.2	21.8	67	N	.....	.....	1	.....	6cks	S	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.65	725.1	29.93	760.3	69.1	20.6	72	WNW	.....	.....	4	.....	3	NE	.....	0.016	0.4	.....	M. Wilhelm.
Hamburg	29.96	761.0	30.03	762.8	61.5	16.4	73	NNW	.....	.....	1	.....	10	.....	.....	0	0	Hazy	Captain F. Hegemann.
Kiel	29.98	761.6	30.00	762.0	64.2	17.9	63	WNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.5	29.82	757.5	73.0	22.8	46	NW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.95	760.6	62.8	17.1	.....	N	.....	.....	4	.....	1	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.59	751.5	29.99	761.8	73.0	22.8	53	NW	.....	.....	1	.....	5	.....	.....	0	0	Hazy	Prof. Bruhns, Privy Counselor.
Memel	29.75	755.6	29.80	756.8	65.8	18.8	70	WNW	.....	.....	4	.....	7s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.17	715.6	30.04	762.9	71.1	21.7	46	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	29.87?	758.8?	29.87?	758.8?	70.9	21.6	64	WNW	.....	.....	2	.....	8	.....	.....	0	0	.....	A. Lothes.
Posen	29.69	754.0	29.97	761.1	72.1	22.3	49	WNW	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.43	747.6	29.96	761.0	74.1	23.4	61	E	.....	.....	2	.....	4	.....	.....	0.049	1.25	Raining	Imp. University Observatory.
Stuttgart	29.01	736.8	29.90	759.5	76.5	24.7	51	N	.....	.....	1	.....	7	N	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.49	723.7	29.94	760.5	71.4	21.9	43	Calm	0	0	.....	.....	8k	.....	E	0	0	Hazy	T. Hopfner.
Wustrow	29.99	761.7	30.09	764.3	61.2	16.2	72	WNW	.....	.....	3	.....	10s	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.46	748.3	29.84	757.8	87.3	30.7	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.59	751.5	29.64	752.8	85.1	29.5	63	WSW	17.0	7.6	.....	.....	1	.....	.....	0	0	D. clouds	
Deesa	29.23	742.4	29.69	754.2	90.3	32.4	50	SW	8.4	3.8	.....	.....	6	ESE	.....	0	0	D. clouds	
Bombay	29.71	754.6	29.75	755.6	82.5	28.1	82	WNW	6.0	2.7	.....	.....	8	SW	WSW	0.35	8.9	D. clouds	
Poona	27.90	708.6	29.75	755.5	78.5	25.8	69	W	.....	.....	.....	.....	9	.....	W	0	0	D. clouds	
Lahore	28.78	731.1	29.49	749.1	103.3	39.6	29	W	8.7	1.6	.....	.....	4	.....	.....	0	0	Blue sky	
Belgaum	27.22	691.3	29.78	756.3	70.0	21.1	86	WNW	13.0	5.8	.....	.....	10	W	W	0.08	2.0	Showery	
Roorkee	28.71	729.2	29.60	751.8	81.8	27.7	85	SE	4.2	1.9	.....	.....	10	.....	.....	0	0	.....	
Agra	29.06	738.1	29.62	752.3	83.7	28.7	83	SE	.....	.....	.....	.....	10	.....	E	0	0	.....	
Nagpur	28.66	727.8	29.69	754.1	82.7	28.2	74	Calm	4.8	2.2	.....	.....	8	.....	E	0.28	7.1	Gloomy	
Lucknow	29.26	743.3	29.64	752.7	85.9	29.9	72	E	2.0	0.9	.....	.....	10	.....	.....	0	0	Overcast	
Allahabad	29.31	744.4	29.62	752.2	82.9	28.3	87	NW	2.2	1.0	.....	.....	9	.....	W	0	0	D. clouds	
Patna	29.42	747.4	29.60	752.0	83.3	28.5	83	SE	1.7	0.8	.....	.....	10	SE	SE	0.02	0.5	Thunder-storm	
Hazaribagh	27.63	701.9	29.62	752.4	80.0	26.7	79	SSW	10.3	4.6	.....	.....	9	.....	S	0.01	0.3	Drizzling	
Cuttack	29.61	752.0	29.69	754.1	85.0	29.4	68	SW	4.0	1.8	.....	.....	2	.....	.....	0.48	12.2	D. clouds	
Calcutta (Alipore)	29.68	753.8	29.70	754.3	83.3	28.5	79	SSE	8.0	3.6	.....	.....	7	SE	.....	0	0	D. clouds	
Goalpara	29.31	744.4	29.70	754.2	79.9	26.6	90	Calm	2.0	0.9	.....	.....	9	W	W	0.63	16.0	D. clouds	
Chittagong	29.70	754.4	29.80	756.8	81.1	27.3	99	Calm	5.4	2.4	.....	.....	4	.....	.....	0	0	Misty	
Sibsagar	29.40	746.7	29.73	755.2	81.7	27.6	86	SW	2.0	0.9	.....	.....	10	W	W	0.60	15.2	D. clouds	
Jubbulpore	28.24	717.4	29.58	751.4	86.9	30.5	66	NNW	1.9	0.8	.....	.....	9	.....	NE	0.11	2.8	Drizzling	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.53	750.0	29.93	760.1	79.9	26.6	36	SE	0.7	0.3	.....	.....	5	.....	.....	0.008	0.2	....	Prof. Giovanni Clodig.
Milan	29.42	747.2	29.92	759.9	81.1	27.3	37	ENE	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.82	757.5	29.93	760.2	79.0	26.1	38	E	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.06	738.0	29.93	760.2	71.8	22.1	65	NW	4.9	2.2	.....	.....	5	NE	.....	0.079	2.0	.....	Prof. P. F. Denza.
Genoa	29.78	756.3	29.97	761.1	74.3	23.5	65	SW	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Prof. G. M. Garibaldi
Mondovi	28.08	713.1	29.92	759.9	72.0	22.2	57	NNW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.88	759.0	29.93	760.2	72.7	22.6	73	N	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.67	753.6	29.92	760.0	82.4	28.0	45	W	.....	.....	2	.....	5	.....	.....	0.024	0.6	.....	Cav. F. Meucci.
Leghorn	29.84	757.9	29.92	760.0	73.2	22.9	70	SSE	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.76	755.9	29.93	760.2	82.9	28.3	45	W	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.91	759.7	79.5	26.4	49	NNE	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.04	737.5	29.87	758.8	87.1	30.6	59	NW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.76	756.0	29.95	760.8	78.4	25.8	67	SE	.....	.....	2	.....	4	S	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.3	29.95	760.6	77.7	25.4	63	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.82	757.5	29.90	759.4	85.0	29.8	54	E	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.98	761.6	79.5	26.4	62	ESE	6.3	2.8	.....	.....	2	S	.....	0	0	.....	Prof. P. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,215.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.97	761.2	29.99	761.7	79.3	26.3	86	SW	1.5	0.7	.....	.....	6s;ck	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.01	762.2	77.5	25.3	89	WSW	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi
Tokei (Yeddo) Observatory	29.88	758.9	29.95	760.7	78.2	25.7	81	SW	6.8	3.0	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.05	760.7	30.00	762.0	79.6	26.4	78	S	2.5	1.1	.....	.....	C	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.05	636.2	30.06	763.5	67.6	14.2	71	SW	.....	.....	2	.....	10	.....	.....	0.32	8.0	Covered	Prof. L. Perez.
Leon	24.41	619.9	30.03	762.7	63.1	17.3	79	NW	.....	.....	1	1c	0	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	30.00	761.9	57.2	14.0	68	NW	2.2	1.0	.....	9pc	1k	.....	.....	0.02	0.6	Very cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.3	16.3	74	Calm	.....	.....	0	2c	1c	.....	.....	0	0	Fine	M. V. de Leon. M. E
Tlacotalpam	29.87	758.8	29.89	759.1	79.2	26.2	87	Calm	.....	.....	0	4	0	NE	.....	0	0	Fair	Prof. M. M. Chàsaro.
San Luis Potosi	24.19	614.3	30.05	763.3	64.9	18.3	70	E	.....	.....	1	1	2	W	E	0	0	Clear	G. Barroeta, M. D
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	573.4	30.13	765.3	58.5	14.7	72	NE	.....	.....	1	1s	0	Calm	.....	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	57.0	13.9	84	Calm	0	0	.....	8ck	0	NE	.....	0.11	2.8	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.69	761.5	29.87	758.8	78.1	25.6	97	E	.....	.....	2	.....	10n	.....	E	0.09	2 3	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.03	762.7	30.03	762.7	69.1	20.6	.....	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.99	761.7	30.04	763.1	61.6	16.4	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.0	30.04	763.0	58.8	14.9	.....	ENE	.....	.....	1	.....	.....	.....	.....	0.024	0.6	.....	
Hellevoetsluis	30.02	762.4	30.02	762.4	74.5	23.6	70	SE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	29.98	761.6	30.03	762.8	67.8	19.9	65	NNE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.85	758.3	29.91	759.7	60.8	16.0	63	NW	3.8	1.7			0			0	0		
Brönö	29.98	761.6	30.02	762.6	55.4	13.0	66	N	9	4			6			0	0		
Christiania	29.69	754.0	29.82	757.5	73.[illegible]	22.9	54	SW	7	3			1			0	0		
Tromsö	29.91	759.6	29.95	760.7	51.8	11.0	85	NW	4	2			10			0.335	8.5	Light rain...	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.18	766.5	30.36	771.2	75.9	24.4	77	W	11.2	5.0			2			0	0		Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.97	761.1	85.1	29.5	34	WNW	1.8	0.8			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.02	762.4	30.10	764.6	74.1	23.4	69	SW	6.9	3.1			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.8	30.07	763.7	73.6	23.1	42	N	21.0	9.4			1			0	0		The Staff.
Ponta Delgada (Azores)	30.23	767.9	30.30	769.6	79.9	26.6	58	NE	7.4	3.3			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello				
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	NW	D. clouds	H. de O. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro				
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	1	NE	Overcast. 10 hr's rain-fall.	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira				H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello				
Tejo, Capt. J. M. T. Guimarães. Macao, China	0		Blue sky	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.42	747.3	29.82	757.5	73.9	23.3	45	W	13	6			7ks					Raining	Astronomical Obs.
Wilna	29.35	745.6	29.77	756.1	58.8	14.9	85	W	4	2			10					Raining	Astronomical Obs.
Dorpat	29.47	748.6	29.71	754.6	56.3	13.5	90	NW	7	3			10n					Light rain	Prof. Dr. Weihrauch.
St. Petersburg	29.65	753.1	29.67	753.5	57.4	14.1	81	ENE	11	5			10n						Central Physical Obs.
Kieff	29.10	739.1	29.70	754.3	74.5	23.6	38	W	9	4			3k;ks					Light clouds	Physical Cabinet.
Nikolaiev	29.76	756.0	29.84	757.8	82.2	27.9	38	WSW	9	4			3k						Kurdakof.
Kertch	29.89	759.1	29.91	759.6	81.5	27.5	68	N	2	1			0						Lagorio.
Moscow	28.98	736.0	29.50	749.3	64.9	18.3	81	S	11	5			9ks						Meteorological Obs.
Lugan	29.49	749.1	29.69	754.0	84.2	29.0	29	WSW	13	6			6			Blank	Blank		Meteorological Obs.
Archangel	29.65	753.0	29.67	753.5	59.9	15.5	94	N	2	1			10						Capt. Sseliwerstow.
Tiflis	28.43	722.2	29.75	755.7	92.3	33.5	35	E	9	4			3k						Physical Observatory.
Astrakhan	29.91	759.7	29.83	757.6	90.5	32.5	31	SE	7	3			2s			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.19	741.5	29.64	752.8	72.5	22.5	47	W	4	2			8						Cand. Fatjanow.
Kasan	29.28	743.7	29.54	750.2	65.8	18.8	70	SSW	9	4			10						Physical Cabinet.
Ekaterinburg	28.64	727.4	29.54	750.2	80.8	27.1	51	S	4	2			7						Meteorological Obs.
Nukuss	29.41	747.1	29.63	752.6	95.7	35.4	30	NNW	4	2			0						
Tashkend	28.27	718.0	29.71	754.7	92.5	33.6	49	Calm	0	0			0						Teich, A. M.
Barnaul	29.16	740.6	29.63	752.6	71.1	21.7	80	SSW	9	4			10						Meteorological Obs.
Yeniseisk	29.45	748.0	29.73	755.1	74.3	23.5	76	N	2	1			6						Marks.
Irkutsk																			
Peking (China)	29.53	750.0	29.67	753.6	81.9	27.7	78	Calm	0	0			5ks					Thunder	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.54	750.2	29.64	752.7	70.5	21.4	90	S	4	2			2s					Thunder-storm	
Nikolaievsk, on the Amoor	29.44	747.8	29.53	750.0	63.8	12.1	86	Calm	0	0			5k						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.8	30.02	762.4	74.1	23.4	66	SSW	6.3	2.83			9			0	0	Almost cov'd	Antonio Rave, Director
Bilbao, Met. Obs'y	30.10	764.6	30.16	766.0	70.7	21.5	70	NW	1.9	0.86			10			0.008	0.2	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.5			68.9	20.5	56	NE	10.0	4.47		0	0			0	0	Clear	DomingoMartin y Perez.
Madrid, Royal Osservatory	27.78	705.6	29.85	758.3	90.0	32.2	39	SE	4.5	2.00		1	1	N		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.83	757.6	29.97	761.2	86.2	30.1	54	ENE	5.5	2.44		0	4			0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.7	30.08	763.9	69.8	21.0	59	NE	11.9	5.3			1			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.5	30.05	763.2	80.2	26.8	86	Calm	0	0		0	0			0.878	22.3	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.72	754.9	29.77	756.2	81.5	27.5	93	NNE	0	0			10		E	0.606	15.4	Rainy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.2	30.02	762.6	76.6	24.8	66	WNW	9.1	4.1		0	0			0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.94	760.4	30.03	762.7	84.9	29.4	71	E	9.0	4.00		8ck	2k	E	E	0.207	5.26	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.3	29.85	758.3	72.3	22.4	.....	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.83	757.7	29.88	759.0	69.4	20.8	32	SE	.....	.....	6	.....	6	.....	.....	0	0	.....	
Hernosand	29.80	757.0	29.85	758.3	75.9	24.4	44	ENE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.65	753.1	29.83	757.6	68.7	20.4	45	NNE	.....	.....	4	.....	4	.....	.....	0	0	.....	
Wisby	29.75	755.6	29.81	757.1	67.3	19.6	70	N	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.74	755.4	29.83	757.6	69.8	21.0	46	N	12.3	5.5	.....	.....	2	N	N	0.00	0.01	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstierna.
.....																			
.....																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	726.0	29.96	761.0	70.7	21.5	68	NE	.....	.....	1	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.37	720.7	29.95	760.8	72.7	22.6	64	W	.....	.....	2	.....	3	.....	.....	0.453	11.5	Fair	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −1.7 mm.; Thermometer, −1.1 Cent.; Relative Humidity, +6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	78.4	25.8	44	NE	14	6.5	.....	.....	2	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.0	82.8	28.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.5	91.2	32.9	60	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....																			
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.02	762.5	30.06	764.0	55	12.8	78	N	9	4.0	.....	.....	10ks	.....	N	0.02	0.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	52	11.1	94	NW	11	4.9	.....	.....	10n	.....	.....	0.030	0.76	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.97	761.2	30.16	766.1	59.8	15.4	80	E	.....	.....	1	0	2s	.....	.....	0.010	0.25	Fair	James Smith, M. A.
Dalhousie, N. B	29.91	759.7	30.07	763.8	56.8	13.8	88	W	.....	.....	1	0	5s	.....	.....	0.31	7.9	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.12	765.0	30.14	765.5	53	11.7	86	SW	15	6.7	.....	8k	0	NE	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.05	763.3	30.12	765.0	60.0	15.6	61	N	4	1.8	.....	5k;ck	0	W	.....	0.21	5.3	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba	28.98	736.1	29.77	756.1	65	18.8	89	SW	15	6.7	.....	5k	5n	SW	SW	0.40	10.2	Cloudy	James Stewart.
Granton, Ontario	29.09	738.9	30.17	766.3	60	15.6	65	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.92	760.0	30.03	762.7	59	15.0	75	NW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.84	757.9	30.20	767.1	62.5	16.9	76	E	.....	.....	2	2c	0	SW	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.84	757.9	30.17	766.3	64	17.8	67	NE	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.86	758.4	29.90	759.4	57.5	14.2	78	N	10	4.5	.....	5ck	0	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.99	761.7	30.18	766.6	60	15.6	79	NE	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.52	749.8	30.19	766.8	63	17.2	72	E	2	0.9	.....	Haze	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.44	747.8	30.24	768.1	64.7	18.2	67	W	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.48	748.8	30.16	766.1	60	15.6	88	NE	7	3.1	.....	5ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.88	758.9	29.94	760.5	50.5	10.3	.....	NE	15	6.7	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.52	749.8	30.16	766.1	60	15.6	82	E	4	1.8	.....	2k	0	NE	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.87	758.7	30.19	766.8	56	13.3	81	NE	.....	.....	1	0	0	.....	.....	0.40	10.2	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.77	756.1	30.23	767.8	54	12.2	80	Calm	0	0	.....	Haze	2ks	.....	NW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	57	13.9	77	N	.....	.....	2	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.92	760.0	30.08	764.0	57	13.9	69	N	7	3.1	.....	3k	0	.....	.....	0.05	1.3	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.48	748.8	30.18	766.6	62	16.7	76	E	8	3.6	.....	2ck	0	.....	.....	0	0	Fair	K. Stewart.
Stayner, Ontario	29.40	746.7	30.16	766.1	60	15.6	55	Calm	0	0	.....	2ck	0	SE	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.91	734.3	30.18	766.6	55.9	13.3	74	E	5	2.2	.....	1ck;ck	0	NE	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.86	758.4	29.90	759.4	55	12.8	66	W	11	4.9	.....	2ck	8ks	W	NW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.82	757.4	30.19	766.8	62	16.7	58	N	6	2.7	.....	5ck	Haze	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.01	762.2	30.11	764.8	64.0	17.8	65	NW	4	1.8	.....	.....	9k	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Woodstock	29.09	738.9	30.13	765.3	61.6	16.4	64	NE	5	2.2	.....	2c	2s	N	N	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.68	753.9	29.92	760.0	57.0	13.9	87	S	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy	John Delany.
.....																			

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.95	760.7	30.18	766.6	61	16.1	71	N	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Alpena, Michigan	29.55	750.6	30.19	766.8	59	15.0	76	NW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	44	6.7	92	W	34	15.2	.....	10ck	0	W	.....	0	0	Fair	
Atlanta, Georgia	28.84	732.5	29.95	760.7	68	20.0	94	E	11	4.9	.....	.....	10s	.....	Calm	0.85	21.6	Cloudy	
Atlantic City, New Jersey	30.11	764.8	30.12	765.0	68	20.0	74	N	6	2.7	.....	2ck	0	NW	.....	0	0	Clear	
Augusta, Georgia	29.84	757.9	30.04	763.0	73	22.8	85	NE	4	1.8	.....	.....	10s	.....	E	0.83	21.1	Cloudy	
Baltimore, Maryland	30.10	764.5	30.15	765.8	73	22.8	46	NE	7	3.1	.....	2k	0	Calm	.....	0	0	Fair	
Barnegat, New Jersey	30.09	764.3	30.11	764.8	66	18.9	74	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.08	713.2	29.94	760 5	65	18.3	94	SW	3	1.3	.....	.....	10ks	.....	Calm	1.02	25.9	Cloudy	
Boerne, Texas	28.50	723.9	29.75	755.6	79	26.1	87	S	2	0.9	.....	5k	0	Calm	.....	0	0	Fair	
Boise City, Idaho	27.06	687.3	30.02	762.5	57	13.9	58	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.98	761.5	30.13	765 3	61.5	16.4	80	N	6	2.7	.....	5k	2ks	NE	NE	0.05	1.3	Fair	
Brackettville, Texas	28.77	730.7	29.79	755.6	79	26.1	74	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.87	758.7	66	18.9	74	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Brownsville, Texas	29.84	757.9	29.89	759.2	83	28.3	79	SE	4	1.8	.....	5k	0	SE	.....	0	0	Fair	
Buffalo, New York	29.47	748.5	30.15	765.8	62	16.7	67	E	3	1.3	.....	0	Haze	.....	Calm	0	0	Hazy	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	49	S	.....	.....	1	5cs	0	S	.....	0	0	Clear	
Burlington, Vermont	29.89	759.2	30.1	765.5	58	14.4	82	N	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cairo, Illinois	29.63	752.6	30.00	762.0	73	22.8	63	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.88	758.9	41	5.6	91	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.7	75	23.9	72	NE	26	11 6	.....	1cs	1ks	SE	NE	0.02	0.5	Clear	
Cape Henry, Virginia	30.06	763.5	30.08	764.0	73	22.8	63	NE	12	5.4	.....	2k	0	N	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.98	761.5	30.06	763.0	74	23.3	81	NE	24	10.7	.....	8k	0	W	.....	0.04	1.0	Cloudy	
Cape May, New Jersey	30.08	764.0	30.11	764.8	69	20.6	79	E	5	2.2	.....	2ck	0	N	.....	0	0	Fair	
Castroville, Texas	29.15	740.4	29.82	757.4	79	26.1	78	NE	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	29.96	761.0	30.01	762.2	74	23.3	86	NE	8	3.6	.....	.....	10s	.....	Calm	2.02	51.3	Cloudy	
Charlotte, North Carolina	29.23	742.4	30.00	762.2	72	22.2	71	NE	5	2.2	.....	5ck;cs	0	w;Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.10	741.7	29.97	761.2	75	23.9	81	Calm	0	0	.....	.....	10s	.....	S	0.87	22.1	Cloudy	
Cheyenne, Wyoming	24.69	611.9	30.03	762.7	57	13.9	63	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.42	747.3	30.08	764.0	74	23.3	55	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.47	748.5	30.10	764.5	69	20.6	52	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.43	747.5	30.14	765.5	65	18.3	73	E	4	1.8	.....	2ck	Sm'e	NW	Calm	0	0	Fair	
Coleman City, Texas	28.12	714.2	29.69	754.1	80	26.7	59	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.26	743.2	30.06	763 5	74	23.3	47	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.03	711.9	29.90	759.8	80	26.7	62	S	9	4.0	.....	10ck	0	Calm	.....	0	0	Cloudy	
Corsicana, Texas	29.48	748.8	29.93	760.2	77	25.0	86	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.44	747.8	30.07	763.8	64	17.8	73	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.39	644.9	.....	.....	57	13.9	87	Calm	0	0	.....	1ck	0	Calm	.....	0.34	8.6	Clear	
Decatur, Texas	28.86	733.0	29.97	761.2	78	25.6	65	S	7	3.1	.....	8ck	0	E	.....	0	0	Cloudy	
Denison, Texas	29.14	740.1	29.89	759.2	77	25.0	82	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Denver, Colorado	24.82	630.4	30.01	763.0	62	16.7	72	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.14	740.1	29.99	761.7	67	19.4	79	S	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Detroit, Michigan	29.49	749.0	30.15	765.8	62	16.7	72	NE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Dodge City, Kansas	27.32	693.9	29.48	748.8	70	21.1	95	SE	16	7.2	.....	.....	10s	.....	SE	0.04	1.0	Cloudy	
Dubuque, Iowa	29.39	746.5	30.08	764.0	63	17.2	67	E	6	2.7	.....	5k	0	NE	.....	0	0	Fair	
Duluth, Minnesota	29.37	746.0	30.03	762.7	62	16.7	77	NE	4	1.8	.....	5ck	0	N	.....	0	0	Fair	
Eagle Pass, Texas	29.13	739.9	29.92	757.4	82	27.8	68	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.03	762.7	30.10	764.5	57	13.9	75	N	11	4.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	79	S	.....	.....	1	2c	5s	Calm	S	0	0	Fair	
El Paso, Texas	26.20	665.5	.....	.....	70	21.1	70	E	3	1.3	.....	.....	10s	.....	W	0.45	11.4	Cloudy	
Erie, Pennsylvania	29.44	747.8	30.14	765 5	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.50	749.3	30.14	765.5	62	16.7	67	N	4	1.8	.....	1ck	0	NW	.....	0	0	Clear	
Florence, Arizona	28.37	720.6	29.97	761.2	77	25.0	31	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.57	707.9	.....	.....	63	17.2	88	SE	2	0.9	.....	8cs	0	Calm	.....	0.28	7.1	Cloudy	
Fort Davis, Texas	25.20	640 1	30.16	766.1	69	20 6	62	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.40	746.7	29.90	759.4	78	25.6	82	E	9	4.0	.....	.....	10s	.....	E	0	0	Cloudy	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	71	21.7	49	NE	8	3.6	.....	6cs	0	Calm	.....	0	0	Fair	
Fort Griffin, Texas	28.65	727.7	29.85	758.2	77	25.0	77	Calm	0	0	.....	0	0	.....	.....	0.22	5.6	Clear	
Fort Keogh, Montana	27.35	694.7	.....	.....	63	17.2	53	S	4	1.8	.....	5cs	0	Calm	.....	0.31	7.9	Fair	
Fort McKavett, Texas	27.69	703.3	29.51	749.5	76	24.4	64	S	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.68	728.5	29.72	754.9	80	26.7	70	SE	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy	
Fort Stevenson, Dakota	28.93	711.9	.....	.....	63	17.2	88	W	4	1.8	.....	1c	4s	W	Calm	0.29	7.4	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	56	13.3	63	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.20	716.3	29.68	753.9	79	26.1	43	S	3	1.3	.....	2k	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.93	760.2	29.97	761.2	83	28.3	79	S	6	2.7	.....	0	2ks	.....	S	Inap.	Inap.	Clear	
Graham, Texas	28.82	732.0	29.81	757.2	80	26.7	70	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.48	748.8	30.11	764.8	67	19.4	64	SE	6	2 7	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.92	734.6	29.80	756 9	79	26.1	74	SE	4	1.8	.....	0	5s	.....	SW	0	0	Fair	
Indianapolis, Indiana	29.32	744.7	30.07	764.8	70	21.1	53	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.94	760.5	29.96	761.0	85	29.4	76	S	4	1.8	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.77	730.7	29.84	757.9	80	26.7	66	SE	.....	.....	.....	5ck	0	E	.....	0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.03	762 7	83	28.3	76	SW	5	2.2	.....	2k	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.39	746.5	29.98	761.5	68	20.0	74	SE	11	4.9	.....	2c	0	Calm	.....	0	0	Clear	
Key West, Florida	30.03	762.7	30.06	763.5	83	28.3	79	SE	2	0.9	.....	5k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	29.96	761.0	29.99	761.7	72	22.2	76	NE	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.05	737.9	30.01	762.2	73	22.8	63	NE	2	0.9	.....	.....	10ks	.....	NE	0.06	1.5	Cloudy	
La Crosse, Wisconsin	29.34	745.2	30.05	763.3	65	18.3	73	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	66	18.9	84	Calm	0	0	.....	2k	5s	S	Calm	0.24	6.1	Cloudy	
Laredo, Texas	29.49	749.0	29.81	757.2	85	29.4	51	SE	2	0.9	.....	5ck	0	NW	.....	0	0	Fair	
Leavenworth, Kansas	29.13	739.9	29.93	760.2	71	21.7	75	SE	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.64	752.8	29.98	761.5	75	23 9	90	NE	2	0.9	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Los Angeles, California	29.60	751.8	29.93	760.2	62.0	16.7	83	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.57	749.3	30.04	763.0	68	20.0	51	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.44	747.8	30.10	764.5	71	21.7	61	E	2	0.9	.....	10ck	0	N	.....	0	0	Cloudy	
Madison, Wisconsin	29.12	739.6	30.09	764.3	62	16.7	77	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.41	747.0	30.10	764.5	62	16.7	61	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Mason, Texas	28.32	719.3	29.98	761.5	80	26.7	66	SW	4	1.8	.....	Haze	0	SE	.....	0	0	Fair	
Memphis, Tennessee	29.62	752.3	29.94	760 5	75	23.9	90	NE	3	1.3	.....	0	10ks	.....	NE	0.45	10.9	Cloudy	
Milwaukee, Wisconsin	29.39	746 5	30.10	764.5	59	15 0	82	N	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.96	761.0	30.00	762.0	79.5	26.4	84	SW	3	1.3	.....	5c	5s	Calm	Calm	0.02	0.5	Cloudy	
Montgomery, Alabama	29.76	755.9	29.98	761.5	77	25.0	90	S	4	1.8	.....	.....	10ks	.....	SW	0.35	8.9	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.15	740.4	30.11	764.8	69	20.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	28.93	607.8	30.29	769.4	34	1.1	90	N	16	7.2	.....	0	8ks	.....	N	0.09	2.3	Fair	
Nashville, Tennessee.....	29.48	748.8	29.99	761.7	77	25.0	77	NE	4	1.8	.....	5ck	0	SE	.....	0	0	Fair	
New Haven, Connecticut.....	30.08	762.7	30.14	765.5	66	18.9	64	NE	14	6.3	.....	0	0	.....	.....	0.19	4.8	Clear.....	
New London, Connecticut...	30.06	763.5	30.11	764.8	69	20.6	65	N	5	2.2	.....	1k	0	N	.....	0.01	0.3	Clear.....	
New Orleans, Louisiana.....	29.95	760.7	30.01	762.2	82	27.8	75	SW	3	1.3	.....	8c	0	Calm	.....	0.17	4.3	Fair.....	
Newport, Rhode Island.....	30.06	763.5	30.11	764.8	66	18.9	64	NW	6	2.7	.....	2ck	0	NW	.....	Inap.	Inap.	Clear	
New York, New York.....	29.96	761.0	30.14	765.5	68	20.0	60	NE	10	4.5	.....	1cs	Haze	Calm	Calm	0	0	Hazy.....	
Norfolk, Virginia.....	30.03	762.7	30.08	764.0	73	22.8	72	NE	8	3.6	.....	5k	0	NE	.....	0	0	Fair	
North Platte, Nebraska	27.04	686.8	29.48	748.8	68	20.0	95	SE	5	2.2	.....	10c	0	SW	.....	0.11	2.8	Cloudy.....	
Olympia, Washington Ter..	29.91	759.7	29.95	760.7	48.0	8.9	92	NW	1	0.4	.....	5c	0	W	.....	0	0	Fair	
Omaha, Nebraska.....	28.84	732.5	29.89	759.2	69	20.6	70	SE	5	2.2	.....	8c	2s	Calm	Calm	0	0	Cloudy.....	
Oswego, New York.....	29.87	758.7	30.19	766.8	64	17.8	73	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pembina, Dakota.....	28.93	734.8	29.71	754.6	68	20.0	90	S	10	4.5	.....	.....	10s	.....	S	0	0	Threatening	
Philadelphia, Pa.....	30.08	764.0	30.14	765.5	67	19.4	50	NE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.63	727.2	30.33	770.4	80	26.7	41	NE	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Pike's Peak, Colorado.....	18.05	458.5	30.26	768.6	38	3.3	54	N	12	5.4	.....	0	0	.....	.....	0.17	4.3	Clear.	
Pilot Point, Texas.....	29.08	738.6	29.88	758.9	80	26.7	58	SE	10	4.5	.....	2k	0	SE	.....	0	0	Fair..	
Pioche, Nevada.....	.....	.....	.....	.....	58	14.4	22	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania.....	29.33	745.0	30.13	765.3	61	16.1	77	NE	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.....	
Port Huron, Michigan.....	29.50	749.3	30.15	765.8	63	17.2	67	NE	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Portland, Maine.....	30.09	764.3	30.14	765.5	60	15.6	77	N	12	5.4	.....	0	0	.....	.....	0.13	3.3	Clear.....	
Portland, Oregon.....	29.91	759.7	29.98	761.5	54.3	12.4	88	Calm	0	0	.....	0	5ks	.....	N	0	0	Fair...	
Prescott, Arizona.....	24.78	629.4	30.14	765.5	58	14.4	58	W	.....	1	.....	1ck	0	W	.....	0	0	Clear.....	
Punta Rassa, Florida.....	30.04	763.0	30.06	763.5	87	30.6	69	SE	2	0.9	.....	5k	0	SW	.....	0	0	Fair.....	
Red Bluff, California.....	29.51	749.5	29.86	758.4	66	18.9	54	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.70	754.4	29.90	759.4	80	26.7	82	SE	10	4.5	.....	2c	0	Calm	.....	0	0	Clear.....	
Rochester, New York.....	29.56	750.8	30.17	766.3	61	16.1	71	W	2	0.9	.....	0	Sm'e	.....	.....	0	0	Clear.....	
*Roseburg, Oregon.....	29.42	747.3	29.98	761.5	57	13.9	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California.....	29.78	756.4	29.86	758.4	55	12.8	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri.....	29.46	748.3	30.01	762.2	67	19.4	64	E	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
St. Marks, Florida.....	30.00	762.0	30.02	762.5	82	27.8	83	W	5	2.2	.....	2cs	0	Calm	.....	0.02	0.5	Fair	
St. Paul, Minnesota.....	29.17	740.9	29.96	761.0	65	18.3	78	SE	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair..... ...	
Salt Lake City, Utah.....	25.55	649.0	29.88	758.9	69	20.6	23	SE	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear.....	
San Antonio, Texas.....	29.29	743.2	29.81	757.2	81	27.2	59	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Diego, California.....	29.90	759.4	29.97	761.2	63	17.2	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.49	749.0	30.14	765.5	69	20.6	65	NE	1	0.4	.....	2c	1ks	N	Calm	0	0	Fair.....	
Sandy Hook, New Jersey....	30.08	764.0	30.12	765.0	64	17.8	89	NE	17	7.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
San Francisco, California..	29.86	758.4	29.92	760.0	54	12.2	87	SW	14	6.3	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico.....	28.37	693.6	29.91	759.7	65	18.3	48	NE	1	0.4	.....	5k	0	E	.....	Inap	Inap.	Fair	
Savannah, Georgia.....	29.94	760.5	30.03	762.7	75	23.9	90	N	4	1.8	.....	.....	10n	.....	NW	1.84	46.7	Light rain...	
Shreveport, Louisiana.....	29.76	755.9	29.97	761.2	77	25.0	82	SW	2	0.9	.....	2ck	5ks	Calm	Calm	0	0	Fair	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina.	30.02	762.5	30.05	763.3	70	21.1	85	N	10	4.5	.....	5ck	Haze	N	Calm	Inap	Inap.	Fair...	
Socorro, New Mexico.....	25.40	645.2	29.47	748.5	76	24.4	49	S	4	1.8	.....	5ck	2s	S	Calm	0	0	Cloudy.....	
Springfield, Ill	29.42	747.3	30.08	764.0	69	20.6	56	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	30.02	762.5	30.16	765.8	66	18.9	64	N	8	3.6	.....	0	0	.....	.....	0.33	8.4	Clear.....	
Stockton, Texas.....	26.91	683.5	29.91	759.7	78	25.6	13	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.14	765.5	30.19	766.8	64	17.8	63	N	13	5.8	.....	5c	0	W	.....	0.04	1.0	Fair.....	
Toledo, Ohio, ...	29.46	748.3	30.13	765.3	63	17.2	78	NE	8	3.6	.....	5c	0	NW	.....	0	0	Fair.....	
Tucson, Arizona.....	27.47	697.7	30.02	762.5	79	26.1	47	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.....	
Umatilla, Oregon.....	29.54	750.3	30.01	762.2	58.0	14.4	64	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.00	736.6	29.78	756.4	81	27.2	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi.....	29.73	755.1	29.97	761.2	80	26.7	82	SW	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Virginia City, Montana.....	24.25	615.9	29.73	755.1	60	15.6	55	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.48	748.8	29.84	757.9	58.5	14.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	30.01	762.2	30.12	765.0	70	21.1	70	NE	8	3.6	.....	5k	Haze	N	.....	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	69	20.6	62	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	29.95	760.7	30.03	762.7	71	21.7	66	NE	10	4.5	.....	1ck	0	Calm	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.58	649.7	29.94	760.5	60	15.6	34	SW	8	3.6	.....	1c	0	Calm	.....	0	0	Clear.	
Wood's Holl, Mass.....	30.08	764.0	30.11	764.8	66	18.9	78	NW	6	2.7	.....	.....	8ks	.....	NW	0.14	3.6	Cloudy.....	
Yankton, Dakota.....	28.08	728.5	29.91	759.7	66	18.9	84	S	4	1.8	.....	10c	0	SW	.....	0	0	Cloudy.....	
Yuma, Arizona.....	29.62	752.3	29.78	756.4	74	23.3	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.22	640.6	.....	.....	67.0	19.4	80	Calm	.....	.....	0	5cs;k	4ks	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I.....	29.91	759.7	29.93	760.2	82	27.8	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.03	762.7	80	26.7	91	E	.....	.....	1	.....	8ks	.....	.....	0.020	0.51	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.05‡	763.3‡	.....	.....	84	28.9	83	W	3	1.3	.....	.....	5	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡	.....	.....	79	26.1	82	SW	.....	.....	3	1c	.....	.....	W	0	0	.....	.....	Fair	
Adams, San Francisco, Cal.	29.96‡	761.0‡	.....	.....	55	12.8	100	NW	.....	.....	3	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
Alliance, Antwerp, Belgium	30.00‡	762.0‡	.....	.....	66	18.9	74	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Ashuelot, Yokohama, Japan	29.97‡	761.2‡	.....	.....	79	26.1	86	SSW	.....	.....	5	.....	2	.....	SSW	.....	.....	Smooth	.....	Clear	
Colorado, New York, N. Y.	30.11‡	764.8‡	.....	.....	66	18.9	68	N	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constellation, Portland, Maine	30.13‡	765.3‡	.....	.....	57.5	14.2	81	NE	.....	.....	3	.....	2	.....	Calm	Very light	Very light	.....	.....	Clear	
Constitution, League Isl. Navy Yard, Pa.	30.13‡	765.3‡	.....	.....	68	20.0	65	NE	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Cronstadt, Russia	29.67‡	753.6‡	.....	.....	58	14.4	88	NNE	.....	.....	2–3	.....	9	.....	N	0	0	.....	.....	Cloudy	
Franklin, Norfolk, Va.	30.04‡	763.0‡	.....	.....	74	23.3	76	N	12	5.4	.....	.....	2	.....	N	.....	.....	.....	.....	Fair	
Hartford, Montevideo, Uruguay	29.70‡	754.4‡	.....	.....	58	14.4	94	SW	.....	.....	4	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.93‡	760.2‡	.....	.....	59	15.0	100	SW	7	3.1	.....	.....	2?	.....	SW	.....	.....	.....	.....	Cloudy?	
Kearsarge, N. 46° 27′ W. 50° 32′	29.86‡	758.4‡	.....	.....	53	11.7	86	SW	.....	.....	3	.....	8	.....	SW	.....	.....	Long	SW	Fair	
Michigan, Erie, Pa.	30.11‡	764.8‡	.....	.....	66	18.9	74	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	29.83‡	757.7‡	.....	.....	84	28.9	91	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.96‡	761.0‡	.....	.....	81	27.2	87	SW	.....	.....	4–5	.....	k	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.01‡	762.2‡	.....	.....	76	24.4	86	NE	7	3.1	.....	.....	10	.....	Calm	1.00	25.4	.....	.....	Cloudy	
Onward, Callao, Peru†.	30.01‡	762.2‡	.....	.....	61	16.1	82	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.84‡	757.9‡	.....	.....	82	27.8	83	SSE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	72	22.2	85	NE	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	30.02‡	762.5‡	.....	.....	62	16.7	83	SE	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Boston, Mass.	30.12‡	765.0‡	.....	.....	60	15.6	82	N	.....	.....	2	.....	10	.....	Calm	0	0	.....	.....	Cloudy.	
Powhatan, N. 41° 33′, W. 69° 25′	30.11‡	764.8‡	.....	.....	63	17.2	78	S	.....	.....	2	.....	5	.....	.....	0	0	Smooth	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.84‡	757.9‡	.....	.....	77	25.0	61	NE	.....	.....	4	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Ranger, Swatow, China	29.90‡	759.4‡	.....	.....	81	27.2	87	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.	
Richmond, Yokohama, Japan	29.96‡	761.0‡	.....	.....	80	26.7	??	SW	.....	.....	4	.....	5	.....	S	0	0	Smooth	SW	Fair	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡	.....	.....	79	26.1	91	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	30.12‡	765.0‡	.....	.....	72	22.2	76	NE	.....	.....	2	.....	8	.....	NE	0	0	.....	.....	Cloudy	
Saratoga, New London, Conn.	30.11‡	764.8‡	.....	.....	64	17.8	94	NE	.....	.....	4	.....	2	.....	NNE	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.11‡	764.8‡	.....	.....	69	20.6	61	NE	9	4.0	.....	.....	2	.....	ENE	0	0	.....	.....	Fair	
Trenton, Flushing, Netherlands	30.03‡	762.7‡	.....	.....	72	22.2	67	SSE	.....	.....	0–1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.92‡	760.0‡	.....	.....	57	13.9	100	SSW	.....	.....	4	.....	9	.....	NE	0	0	Smooth	.....	D. clouds	
Vandalia, New Bedford, Mass.	30.11‡	764.8‡	.....	.....	65	18.3	78	NW	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.06‡	763.5‡	.....	.....	62	16.7	77	N	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Wyoming, N. 42° 30′, E. 14° 50′	29.93‡	760.2‡	.....	.....	74	23.3	72	N	.....	.....	3	.....	2	.....	N	.....	.....	Smooth	N	Clear	
Wachusett, New Orleans, La	30.01‡	762.2‡	.....	.....	81	27.2	91	W	.....	.....	1	.....	5	.....	SE	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			W. House.
S. S. Colima, N. 18° 59′, W. 104° 19′..†		30.02‡	762.5‡	81	27.2	160	N			2		8		NW	1.21 in. or 30.7mm	Small	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse,																			F.W.Hart, 1st Officer.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada, Capt. Austin.																			R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, N. 3° 50′, W. 164° 21′..		29.85‡	758.2‡				E			1		10		SE		Mod'ate	E	Showery	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 39° 52′, W. 140° 30′...†.		30.05‡	763.3‡	64	17.8	83	WNW			6		9k			0	Mod'ate	WNW	Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 42° 43′, E. 157° 29′...†.		29.95‡	760.7‡	68	20.0	90	S			3		ks		S	0	Smooth	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid; *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 38° 12′, W. 73° 44′		30.09‡	764.8‡	88.0	31.1	56	ENE			2		2		NE	0	Smooth	ENE	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 43′, W. 7° 30′		30.01‡	762.2‡				WSW			3		10		W		3	WNW	Foggy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 26′, W. 23° 04′		29.78‡	755.1‡	62	16.7	83	W			6		4		W	Mod'ate	Large	SW	Cloudy?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 42° 56′, W. 56° 37′		29.91‡	759.7‡				W	25	11.2			2		W		Long	W	Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 38° 27′, W. 76° 19′		29.39‡	759.2‡	82	27.8	87	NE	18	8.0		2c	5k		NE	1.58 in. or 40.1mm	Heavy	NE	Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 29° 49′, W. 70° 18′ †		30.10‡	764.8‡				SSW			5		8		SW	Blank	Mod'ate	W	Squally	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., BVT. ASSG'D, CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.96	760.9	67.3	19.6	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.00	762.0	81.3	27.4	74	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.98	761.5	77.0	25.0	90	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.03	762.8	82.2	27.9	66	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.98	761.6	93.7	34.3	16	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Geriville	.....	.....	30.00	762.0	86.4	30.2	29	E	.....	.....	5	.....	2	.....	.....	0	0	Fair	Watrin.
Laghouat	.....	.....	29.96	760.9	81.1	27.3	27	NW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Biskra	.....	.....	29.95	760.7	69.7	37.6	30	SW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
	.....	.....	29.95	760.7	101.1	38.4	21	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.84	746.3	29.87	758.6	77.4	25.2	53	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.15	740.4	29.89	759.1	75.2	24.0	53	WSW	6.3	2.8	.....	.....	1	.....	.....	6	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.03	737.4	29.87	758.7	74.7	23.7	56	S	.....	.....	2	.....	7ks;cs	.....	.....	0.031	0.80	.....	Julius Mikolik.
Gratz	28.69	728.8	29.88	759.0	76.3	24.6	53	ESE	.....	.....	1	.....	6	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.49	723.7	29.85	758.1	77.5	25.3	76	WNW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.54	725.0	29.82	757.4	75.4	24.1	62	E	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.89	733.9	29.85	758.2	67.3	19.6	60	NW	.....	.....	1	.....	9	.....	.....	0.098	0.2	.....	Dr. T Stanecki.
Pola	29.80	767.0	29.92	760.0	83.3	28.5	46	SW	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.49	749.1	29.93	760.3	78.8	26.0	42	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.59	751.5	29.85	758.2	78.1	25.6	44	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.84	757.8	29.94	760.4	81.0	27.2	55	W	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.21	741.8	29.93	760.2	76.6	24.8	50	E	.....	.....	2	.....	2	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.36	745.7	29.46	748.3	51.7	10.9		E	16	7.2						0.660	16.76	Foggy	W. Boswell.
Ardrossan																			Wm McNeil &G.Carrick
Armagh, Observatory	29.18	741.1	29.40	746.7	55.4	13.0		NW	7	3.1									S. Call.
Bidston (Liverpool Obs)			29.18	741.1	61.0	16.1		W	31	13.9		6						D. clouds	John Hartnup.
Bolton (Sharples)			29.18	741.1	55.3	12.9		WSW	18	8.0		10						Raining	Thomas Mackereth.
Bradford, Yorkshire																			J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	83	28.3		NE			2	6						Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.24	742.7	29.34	745.2	62.5	16.9		S			2	10				0.450	11.43	Overcast	H. Todd.
Cardington			29.28	743.7	62.0	16.7		S			6	10				Blank	Blank	Overcast	John McLaren.
Chatham, School M. E.	29.30	744.2	29.43	747.5	61.0	16.1		S			6	8						Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	29.27	743.4	29.31	744.5	55	12.8		SE			2	10						Raining	J. Mac Gowan.
Dover	29.47	748.5	29.49	749.0	58	14.4		SW			6	10						Raining	J. Costello.
Falmouth, Observatory	29.39	746.5	29.61	752.1	59.2	15.1		WNW			7	8						Gloomy	The Staff.
Fort Napier (Natal)	27.74	704.6	30.02	762.5	62.0	16.7		N			3	3						Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	78	25.6		Calm			0	4						D. clouds	
Galway, Queen's College			29.56	750.8	61	16.1		NW			4	10						Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.06	763.5	80.0	26.7		E			3	5						D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.13	739.9	29.34	745.2	61.9	16.6		NE			4	10						Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.42	747.3	29.42	747.3	58	14.4		S			5	7						Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.22	742.2	29.39	746.5	64.0	17.8		SW			4	10						Overcast	The Staff, for G.B.Airy.
Guernsey	29.41	747.0	29.63	752.6	59	15.0		WSW			6	7				Blank	Blank	Squally	Dr. S.E.Hoskins, F.R.S.
Helston	29.62	752.3	29.74	755.4	62	16.7		SW			3	6k				0.75	19. 1	Squally	M. P. Moyle.
Holyhead	29.21	741.9	29.23	742.4	54	12.2		WNW			7	10						Raining	John Tilston.
Jersey	29.40	746.7	29.69	754.1	59.0	15.0		WSW			7	10				Blank	Blank	Threatening	J. Fisher.
Kew, Observatory	29.35	745.5	29.39	746.5	62.2	16.8		SSW	24	10.7		9						Threatening	The Met'g'l Office.
Leicester, Museum	29.02	737.1	29.26	743.2	61.9	16.6		SW			6	10						Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.93	760.2	81.4	27.4		NW			2	0						Blue sky	A. King.
Nairn	29.35	745.5	29.44	747.8	57	13.9		E			3	10						Covered	W. D. Penny.
Nassau (Bahamas)			30.03	762.7	86.5	30.3		SE			1	7				Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.04	737.6	29.23	742.4	61.7	16.5		SSW			6	10d		SSW		0.401	10.19	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.74	730.0	29.24	742.7	61.0	16.1		SW			6	9						Drizzling	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.34	745.2	60	15.6		W			4	10						Threatening	H. E. Bellamy.
Plymouth	29.48	748.8	29.56	750.8	60.1	15.6		WSW			6	10						Overcast	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.47	748.5	29.58	751.3	59	15.0		NNW			7	8						¾ clouded	Wm. Kennedy.
Saint Ann's Head								W			7	4						Squally	John C. Walker.
Sandwick Manse (Orkneys)			29.69	754.6	54.2	12.3		ESE	19	8.5		10						Drizzling	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.80	756.9	29.88	758.9	67.0	30.6		NE			2	2						D. clouds	Serg't W. H.Lyne.
Sheffield	28.99	736.3	29.25	742.9	61.7	16.5		S			2	10				0.38	9.7	Raining	W. F. Cooper.
Silloth Rectory	29.21	741.9	29.24	742.7	59.7	15.4	83	E			3	10				0.410	10.41	Raining	Francis Redford, A. M.
Stonyhurst, Observatory			29.18	741.1	57.1	13.9		SW	16	7.2		10						Raining	Rev. S. J. Perry.
Strathfield, Turgiss	29.19	741.4	29.40	746.7	65.1	18.4		SW			4–5	7						Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.767	755.97	29.76	755.9	60	15.6		NW			9	6						D. clouds	W. Newcombe.
Valencia, Observatory	29.72	754.9	29.74	755.4	58.8	14.9		NW	21	9.4		7				Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.11	764.8	30.15	765.8	59.8	15.4	77	NW	1.9	0.8		8	6			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.08	764.0	41	5.0	85	N			2		7k			0.01	0.3		FrancisAbbott, F.R.A.S
Leith, Restalrig Park			29.37	746.0	55.8	13.2		E			2		10s			0.58	14.7	Overcast	Andrew Gibb.
Mauritius, Observatory	29.97	761.2	30.16	766.2	70.0	21.1	71	ESE	15.0	6.7		0	4			0.01	0.3	Fine	C. Meldrum.
Melbourne, Observatory	30.11	764.8	30.20	767.1	46.7	8.2	88	SW	2	0.9			10			0.05	1.3	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)																			J. Youngclause.
North Unst (Shetland Is.)																			Robert Burnet.
Colesberg Bridge																			

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00′. E. 29° 00′			29.90‡	759.4‡	77	25.0		NE			5		3					D. clouds	Capt.W. J. L. Wharton.
Agnes Wilson, N. 44° 30′, W. 36° 05′			30.27	768.8	70	21.1		SSW			4		10			3	wsw;sw	Misty	Capt. H. W. Dyke.
Astarte, N. 55° 55′, W. 15° 15′ *			29.78‡	756.4‡	54.8	12.7		NNW			6		4					D. clouds	Capt. Parson.
Barque Commewyne, N. 24° 25′, W. 58° 10′			30.16	766.1	81.3	27.4		ESE			4		3					D. clouds	Capt. A. Buchan.
Theophane, S. 12° 05′, W. 10° 50′			30.18‡	766.6‡	72.6	22.6		E			5		7					Showery	Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
Barque Fedalma																			Capt. H. L. Fox.
British Peer																			Capt. Raymond.
Algeria																			Capt. Wm. Watson.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	62.2	16.8	97	NE			1	2ck				1.0	25.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.5	29.83	757.7	62.8	17.1	67	Calm			0		3						
Fanöe	29.74	755.3	29.76	755.8	66.7	19.3	63	SE			7		5						
Godthaab (Greenland)	30.05	763.2	30.09	764.3	40.6	4.8	76	SW			4		9						
Stykkisholm (Iceland)	29.97	761.2	30.01	762.3	51.8	11.0	95	W			4		8						
Thorshavn (Faröe)	29.69	754.0	29.72	754.9	49.3	9.6	100	ENE			4		10						Raining
Vestervig	29.66	753.4	29.77	756.2	66.0	18.9	60	SE			2		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.24	742.8	29.80	756.8	61.9	16.6	94	SSW			1		10			0	0	Covered	Collignon, Director.
Amiens, Normal School	29.58	751.2	29.68	753.9	60.4	15.8	91	SSW			3		8		NE	0.898	22.8	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.41	746.9	29.66	753.8	58.1	14.6	95	SW			3		10		SW	0.039	1.0	Raining	Klein, Commandant.
Avignon, Normal School	29.89	759.2	29.97	761.2	61.1	27.3	43	N			1		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.35	745.4	29.89	759.1	67.1	19.5	58	SW			1		10		SW	0.039	1.0	Covered	G. Saillard, Director.
Beauvais, Normal School	29.44	747.7	29.70	754.3	61.3	16.3	89	SSW			3		10		SSW	0.138	3.50	Covered	Frere Eugene Marie.
Besançon, Normal School	29.09	738.8	29.94	760.5	74.1	23.4	60	SW			1		8		S	0.220	5.6	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.1	30.11	764.8	73.6	23.1	59	SE			1		n	S	S	0	0		Marlot, Director.
Bourges, Normal School	29.35	745.5	29.89	759.1	66.6	19.2	79	SW			5		5kn	SW	SW			Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.51	749.6	29.76	755.8	63.3	17.4	86	W			5		10		W	0.108	2.75		Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.71	754.6	30.11	764.7	77.0	25	42	WNW			1		2		NW	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.68	751.4	29.96	753.3	66.6	19 2	88	SSE			1				SE	0.08	2.		Lair, Director.
Chartres, Normal School	29.19	741.3	29.74	755.4	69.7	15.4	94	SW			3		10		SW			Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.53	750.0	29.84	757.9	64.0	17.8	70	SW			3		8	SW		0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.64	727.5	29.95	760.6	74.1	23.4	50	W			1		10		W	0	0		Alluard, Director.
Commercy, Normal School	29.02	737.1	29.85	758.1	67.1	19.5	87	SW			1		5kn	SW	SW	0.012	0.3	Cloudy	Dr. Coulet, Director.
Commune de Grénsque*	28.92	734.5	30.06	763.5	80.6	27.0	99	SW			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.1	29.99	761.8	73.8	23.2	58	NW			1		2k		NE	0	0	Slightlycl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.73	755.2	29.95	760.6	61.0	16.1	93	SSW			6		10					Light rain	Mouillot, Director.
Le Mans, Normal School	29.59	749.2	29.80	756.9	61.2	16.2	83	SW			5		8		SW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.07	738.3	30.00	761.9	74.3	23.5	58	S			1		10n			0.020	0.50	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.72	755.0	29.82	757.5	63.3	17.4	93	SW			7				SW	0.055	1.4		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.70	754.3	29.96	761.0	73.8	23.2	43	W			5		7		NW	0	0		E. Stephan, Director
Mirecourt, Normal School	28.85	732.9	29.86	758.5	69.1	20.6	69	SW			3		10		SW	0.43	11.	Covered	Barbier, Director
Mont-Louis	24.97	634.3	30.29	769.3	65.8	18.8	81	E	15.0	6.7			0			0	0		M. Cave.
Nismes, Normal School	29.82	757.5	30.02	762.5	81.6	29.2	29	NW			1		2		SW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.49	749.1	60.1	15.6	91	SSW			5		10		SSW	0.024	0.6	Sprinkling	Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.69	576.2			53.2	11.8		S			3		0			0	0	Clear	Gen'l de Nansouty.
Perpignan	29.94	760.5	30.04	763.1	75.9	24.4	57	NW	5.6	2.5			1	NW		0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.23	640.8			47.1	8.4	100	W			3					0.228	5.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.98	761.6	30.02	762.4	65.1	18.4	80	SW			3		10	W	W	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.59	751.6	29.68	753.8	61.3	16.3	89	S			3		10		S	0.067	1.7	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.67	753.6	29.70	754.4	66.2	19.0	75	WSW			5		8	WSW	WSW	Inap	Inap.	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.61	752.1	29.78	756.3	61.0	16.1	84	S			5		10		SW	0.299	7.6	Raining	E. Renou, Director.
Tarbes, Normal School	29.98	738.6	30.10	760.0	75.2	24	83	SW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.40	746.8	30.13	765.2	71.6	22.0	61	WNW			1		1			0	0		M. Julier Mercadier.
Tours	29.72	755.0	29.92	760.0	64.4	18.0	76	SW			6		10		SW	0.016	0.4		Cousin-Marquet.
Versailles, Observatory	29.27	743.4	29.76	755.9	61.2	16.2	83	SW			7					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.25	742.9	29.93	760.2	77.9	25.5	58	ESE			2		5		NE	0.238	5.93	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	79.2	26.2										0.51	13.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.36	745.7	29.95	760.7	77.7	25.4	49	SW			1	8c			SW	0	0	Covered	Ch. André, Director.
Nice			29.98	761.6	77.0	25.0	74	S			1		5			0	0	Misty	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.74	755.5	29.77	756.1	81.5	27.5	88	SE	12.1	5 4			1			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Grénsque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following, Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Grénsque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.5 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.6	29.88	758.9	75.4	24.1	57	SW			4		8	SW		0.039	1.0	Raining	Prof. Dr. Hoh.
Berlin	29.67	753.7	29.84	757.9	73.4	23.0	63	SE			1		7			0.110	2.8	Thunder-storm.	Prof. Dr. Arndt.
Breslau	29.37	746.0	29.[illegible]	759.4	79.5	26.4	41	SSW			3		4			0	0		Royal University Ob's'y.
Carlsruhe	29.45	748.0	29.86	758.5	71.2	21.8	69	SW			3		10	SW		0.689	17.5	Raining	Albert Senz.
Cassel	29.17	740.8	29.77	756.1	70.3	21.3	66	ESE			2		8	SW		0.544	13.82		Dr. H. Möhl.
Crefeld	29.69	754.1	29.85	758.2	69.4	20.8	61	S			4		9			0	0		Director Lose.
Emden			29.70	754.3	66.0	18.9	80	S			1		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.51	749.6	29.87	758.8	72.1	22.3		S			2		10			0.031	0.8		Physical Society.
Freienwalde on the Oder	29.50	756.9	29.84	757.9	73.0	22.8	66	SSE			2		7ks	S		0.220	5.6		Dr. Assmann.
Friedrichshafen	28.50	724.0	29.89	759.1	71.2	21.8	73	SW			4		8	W		0.220	5.6		M. Wilhelm.
Hamburg	29.79	756.7	29.56	758.4	69.1	20.6	66	SE			4		3ck			0	0	Very fair	Captain F. Hegemann.
Kiel	29.77	756.1	29.78	756.5	68.2	20.1	57	ESE			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.76	755.8	29.84	757.9	62.8	17.1	85	NW			2		8			0.051	1.3		Prof. E. Luther.
Kösiin			29.84	757.9	65.3	18.5		Calm			0		1			0	0		H. Müller.
Leipsic Observatory	29.43	747.5	29.83	757.7	70.3	24.6	66	WSW			1		6					Thunder-storm.	Prof. Bruhns, Privy Counselor.
Memel	29.75	755.7	29.80	756.9	65.1	18.4	78	NW			4		10s						Skalweit.
Munich (München)	28.12	714.2	29.98	761.4	73.2	22.9	53	W			5		7			0	0		Dr. C. Lang.
Neufahrwasser	29.86	758.5	29.88	758.9	66.2	19.0	73	NNE			2		5			0	0		A. Lothes.
Posen	29.61	752.1	29.89	759.1	76.8	24.9	51	S			1		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.36	745.8	29.89	759.2	73.9	23.3	61	S			2		10	SW		0.029	0.73	Raining	Imp. University Observatory.
Stuttgart	28.95	735.3	29.85	758.2	72.5	22.5	59	N			1		9	W		0.287	7.3	Thunder-storm.	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.43	722.1	29.89	759.3	63.9	17.7	78	Calm	0	0			8ck		W	0.118	3.0		T. Hopfner.
Wustrow	29.82	757.5	29.85	758.1	64.8	18.2	70	NE			1		0			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.90	759.4	91.2	32.9		NE			1.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.2	29.59	751.5	83.2	28.4	67	WNW	25.0	11.2			6	W	WNW			Hail	
Deesa	29.15	740.4	29.61	752.1	90.7	32.6	47	SSW	13.2	5.9			6	E	WSW	0	0	D. clouds	
Bombay	29.67	753.6	29.71	754.6	83.6	28.7	75	WNW	9.0	4.0			7	WSW	W	0	0	D. clouds	
Poona	27.86	707.5	29.70	754.4	78.5	25.8	58	WNW					4		WNW	0	0	D. clouds	
Lahore	28.70	728.9	29.40	746.8	102.8	39.3	30	W	3.9	1.7			2			0	0	Blue sky	
Belgaum	27.18	690.5	29.72	754.8	72.8	22.7	81	WSW	12.0	5.4			9	W	W	0.08	2.0	Showery	
Roorkee	28.60	726.3	29.47	748.6	84.8	29.3	81	E	3.8	1.7			10			0	0		
Agra	28.95	735.4	29.50	749.3	92.6	33.7	55	SW					4		S	0	0		
Nagpur	28.59	726.2	29.62	752.4	82.5	28.1	79	NW	3.8	1.7			8		SE	0	0	Gloomy	
Lucknow	29.19	741.4	29.56	750.9	81.3	27.4	96	E	1.0	0.4			10			0.02	0.5	Overcast	
Allahabad	29.28	743.8	29.60	751.7	81.1	27.3	91	Calm	2.1	0.9			10		W			Overcast	
Patna	29.36	745.8	29.54	750.4	83.3	28.5	79	Calm	0.8	0.4			10			1.79	45.5	Overcast	
Hazaribagh	27.62	701.5	29.63	752.5	75.6	24.2	88	ESE	10.0	4.5			10		S	0.36	9.1	Thunder-storm	
Cuttack	29.58	751.3	29.66	753.4	84.8	29.3	75	SSW	5.0	2.2			4			0	0	D. clouds	
Calcutta (Alipore)	29.67	753.6	29.69	754.1	83.7	28.7	75	SSE	9.0	4.0			9	S		0	0	D. clouds	
Goalpara	29.30	744.8	29.70	754.2	75.8	24.3	91	ESE	2.6	1.2			10			0.18	4.6	Drizzling	
Chittagong	29.66	753.3	29.75	755.7	79.6	26.4	90	Calm	4.3	1.9			8			0	0	Threatening	
Sibsagar	29.40	746.7	29.73	755.2	80.7	27.1	88	SE	3.6	1.6			10			1.17	29.7	D. clouds	
Jubbulpore	28.26	717.9	29.63	752.5	76.3	24.6	91	NE	2.6	1.2			10		N	0.40	10.2	Drizzling	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.8 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.51	749.6	29.91	759.7	81.9	27.7	40	W	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.40	746.8	29.90	759.4	83.3	28.5	34	S	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.81	757.1	29.91	759.8	80.2	26.8	41	S	2.5	1.1	.....	.....	4	ESE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.3	29.90	759.5	80.1	26.7	44	WSW	2.5	1.1	.....	.....	6	NNE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.77	756.2	29.96	761.0	74.8	23.8	72	SW	4.3	1.9	.....	.....	4	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.06	712.6	29.90	759.5	77.0	25.0	47	N	.....	.....	2	.....	4	WNW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.85	758.3	29.90	759.5	74.8	23.8	74	N	10.5	4.7	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.07	753.6	29.92	759.9	83.3	28.5	42	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.86	758.5	29.95	760.6	71.8	22.1	76	W	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.78	756.5	29.95	760.8	78.8	26.0	57	SW	11.2	5.0	.....	.....	8	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.70	754.4	29.95	760.7	87.8	31.0	35	E	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.05	737.9	29.89	759.2	86.7	30.4	61	NW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.75	755.7	29.94	760.5	82.4	28.0	32	NW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.72	755.0	29.97	761.3	77.0	25.0	67	NE	3.6	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.6	29.94	760.4	81.0	27.2	59	NE	6.3	2.8	.....	.....	3	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.44	747.8	30.00	761.9	77.9	25.5	68	SW	5.6	2.5	.....	.....	4	SW	.....	0	0	.....	Prof. P. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.97	761.2	80.1	26.7	73	SW	4.9	2.2	.....	.....	6s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.96	761.0	77.1	25.1	89	SW	0.3	0.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.90	759.4	29.96	761.0	78.9	26.1	83	SW	3.3	1.5	.....	.....	9ks;s	.....	W	0	0	Cloudy	The Staff.
Wakayama	29.92	759.9	29.97	761.2	78.9	26.1	79	S	3.6	1.6	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.02	635.4	29.99	761.8	69.9	15.5	77	NW	.....	.....	1	.. ..	10	.....	.....	0.21	5.4	Covered	Prof. L. Pereа.
Leon	24.40	619.8	30.03	762.8	62.6	17.0	85	SW	.....	.....	1	7cs	2k	E	.....	0.09	2.4	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	24.06	585.6	30.04	762.9	55.0	12.8	85	NW	2.9	1.3	.....	9ck	0	NE	.....	0.07	1.8	Very cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.9	16.6	74	W	.....	.....	1	1c	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
Tlacotalpan	29.87	758.7	29.88	759.0	77.9	25.5	91	NW	.....	.....	1	.....	10	.....	NW	0.99	25.0	Covered	Prof. M. M. Chàzaro.
San Luis Potosi	24.22	615.1	30.11	764.8	63.5	17.5	69	E	.....	.....	1	5	3	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	573.1	30.19	766.9	56.8	13.8	75	E	.....	.....	1	2s	0	Calm	.....	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	54.5	12.5	86	SE	0.9	0.4	.....	6ck	0	SE	.....	0	0	½ clouded	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.59	751.5	29.87	758.8	75.0	23.9	93	NE	.....	.....	3	2c	6n	.....	E	0.12	3.0	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.60	751.8	29.60	751.8	61.2	16.2	.....	S	.....	.....	0	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	29.63	752.6	29.69	754.0	63.0	17.2	.....	S	.....	.....	1	.....	.....	.....	.....	0.036	0.9	.....	
Helder	29.60	751.7	29.60	751.7	61.0	16.1	.....	SSE	.....	.....	4	.....	.....	.....	.....	0.559	14.2	.....	
Hellevoetsluis	29.62	752.3	29.62	752.3	62.1	16.7	83	S	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	29.62	752.3	29.67	753.5	62.8	17.1	86	SSE	.....	.....	4	.....	8	.....	.....	0.122	3.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.69	754.1	29.74	755.5	65.5	18.6	66	NW	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.79	756.6	29.83	757.6	59.0	15.0	68	N	9	4	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.64	752.8	29.78	756.3	74.5	23.6	50	SSW	4	2	.....	.....	2	.....	.....	0	0	.....	
Tromsö	29.94	760.4	29.98	761.5	52.5	11.4	75	N	11	5	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.22	767.5	30.40	772.2	74.8	23.8	85	SSE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.00	762.0	93.7	34.3	20	WSW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.08	764.0	30.17	766.2	73.2	22.9	75	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.9	30.11	764.7	78.3	25.7	44	NNW	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.34	770.7	30.41	772.4	81.0	27.2	63	SSE	3.1	1.4	.....	.....	5	.....	.....			.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello				
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro				
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island			D. clouds. 3 hr's rain.]	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira				H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello				
Tejo, Capt. J. M. T. Guimaraes. Macao, China			Blue sky	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	748.0	29.85	758.2	71.1	21.7	52	WNW	11	5	.....	.....	4kb	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.35	745.4	29.76	755.8	62.4	16.9	86	W	7	3	.....	.....	9	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.51	749.5	29.74	755.4	65.3	18.5	75	NNW	4	2	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.67	753.6	29.69	754.0	59.2	15.1	84	WNW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.19	741.3	29.78	756.5	75.9	24.4	40	W	7	3	.....	.....	4k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.62	757.5	29.89	759.3	76.5	24.7	60	SW	9	4	.....	.....	8n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.89	759.1	29.91	759.6	83.7	28.7	58	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.13	739.8	29.66	753.4	62.2	16.8	85	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.60	751.7	29.79	756.6	88.5	31.4	31	SW	4	2	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel*	29.56	750.7	29.78	751.2	66.0	18.9	94	NW	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.37	720.5	29.67	753.5	99.0	37.2	28	S	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.87	758.7	29.79	756.6	88.5	31.4	33	NE	2	1	.....	.....	2cks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.25	742.9	29.69	754.1	78.1	25.6	37	W	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.33	745.0	29.59	751.5	67.8	19.9	70	W	11	5	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.67	728.2	29.58	751.2	74.5	23.6	39	W	27	12	.....	.....	7ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.52	749.7	29.73	755.2	98.6	37.0	32	NNW	11	5	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.12	714.3	29.55	750.6	94.3	34.6	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.08	738.6	29.55	750.6	70.7	21.5	79	NW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.43	747.4	29.70	754.4	76.8	24.9	58	ESE	4	2	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.45	747.9	29.59	751.5	74.1	23.4	77	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	Thunder-storm.	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.62	752.3	29.72	754.8	72.7	22.6	77	SW	4	2	.....	.....	3cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	80.6	27	56	SSW	7.3	3.25	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763.6	30.12	765.0	79.7	26.5	55	N	1.9	0.86	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	690.8	.....	.....	79.3	26.3	38	N	6.4	2.86	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Osservatory	27.86	707.7	29.93	760.1	93.7	34.3	30	S	4.5	2.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.87	758.7	30.01	762.3	88.2	31.2	54	ESE	5.3	2.39	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.12	765.0	73.0	22.8	74	NE	0	0	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.97	761.1	30.03	762.8	81.9	27.7	84	ESE	2.2	1.0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.8	29.81	757.0	80.8	27.1	91	W	0	0	.....	.....	2n	.....	W	1.260	32.0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.6	30.04	763.0	83.5	28.6	60	WNW	8.9	4.0	.....	1	1	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.2	30.02	762.5	84.2	29.0	72	E	10.3	4.60	.....	3ck	3k	E	E	0.283	7.20	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.81	757.1	29.85	758.1	55.4	13.0	.....	NE	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.81	757.1	29.86	758.4	70.2	21.2	59	ENE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	79.5	26.2	51	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Stockholm	29.61	752.1	29.79	756.7	73.4	23.0	52	NNE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.73	755.1	29.79	756.6	67.3	19.6	55	NNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.70	754.3	29.78	756.5	73.0	22.8	40	ENE	8.9	4.0	.....	.....	2	SE	.....	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstierna.
.....																			
.....																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.5	29.93	760.2	75.4	24.1	52	S	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.34	719.8	29.91	759.7	74.8	23.8	68	W	.....	.....	2	.....	6	.....	.....	0.315	8.0	Cloudy	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −2.2 mm.; Thermometer, +1.6 Cent.; Relative Humidity, 0 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	760.0	79.3	26.3	54	NE	14	6.5	.....	.....	3	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.07	763.7	82.0	27.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.78	756.6	85.8	29.9	64	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....																			
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.12	765.0	30.18	766.6	58	14.4	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.15	765.8	30.19	766.8	59	15.0	67	W	3	1.3	.....	2cs	2s	.....	NW	0	0	Cloudy?	H. J. Cundall, C. E.
Cornwall, Ontario	29.96	761.0	30.15	765.8	58.8	14.9	80	S	.....	.....	1	4cs	0	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.16	766.1	63.8	17.7	82	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.16	766.1	30.18	766.6	54	12.2	80	SW	10	4.5	.....	2cs	0	.....	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.18	766.6	30.24	768.1	74.3	12.4	92	NW	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	Prof. Harrison.
*Fort Garry, Manitoba	29.12	739.6	29.92	760.0	65	18.3	86	W	4	1.8	.....	Haze	Haze	W	W	0.040	1.02	Hazy	James Stewart.
Granton, Ontario	29.04	737.6	30.11	764.8	63	17.2	78	E	.....	.....	1	1cs	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.12	765.0	30.23	767.8	60	15.6	76	NW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.80	756.9	30.16	766.1	61.3	16.3	82	E	.....	.....	1	8c	0	SE	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.84	757.9	30.16	766.1	67	19.4	77	SW	7	3.1	.....	8c	0	Calm	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.08	764.0	30.11	764.8	56.4	13.6	81	N	12	5.4	.....	5k	0	N	.....	0.10	2.5	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	30.01	762.2	30.20	767.1	62	16.7	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.44	747.8	30.11	764.8	67	19.4	60	S	10	4.5	.....	2cs	0	W	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.46	748.3	30.17	766.3	70.7	21.5	66	SE	.....	.....	1	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.44	747.8	30.12	765.0	61	16.1	88	N	2	0.9	.....	5ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.48	748.8	30.11	764.8	63	17.2	90	E	3	1.3	.....	5ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.92	760.0	30.24	768.1	56	13.3	87	NE	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear?	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.70	754.4	30.16	766.1	56	13.3	87	E	2	0.9	.....	5ck	0	SW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.18	766.6	30.23	767.8	56	13.3	90	Calm	.....	.....	0	0	0	.....	.....	0.05	1.3	Clear	Dr. Gove.
St. John, N. B	30.02	762.5	30.18	766.6	55	12.8	80	NW	6	2.7	.....	1k	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.10	764.5	63	17.2	68	S	8	3.6	.....	8cs	0	.....	.....	0	0	Clear?	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.87	733.3	30.13	765.3	55.6	13.1	87	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.14	765.5	55	12.8	72	N	8	3.6	.....	5k	2ks	N	N	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.77	756.1	30.15	765.8	63	17.2	78	NE	5	2.2	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.19	766.8	30.29	769.4	64.5	18.1	60	W	1	0.4	.....	0	1s	.....	.....	0	0	Fine	Prof. John E. Oram.
Woodstock	29.65	737.9	30.08	764.0	63.9	17.7	72	E	3	1.3	.....	8ck	4ks	W	.....	0	0	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.82	757.4	30.07	763.8	59.0	15.0	76	W	.....	.....	.....	2k	5s	.....	.....	0	0	Fair	John Delany.
.....																			

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.05	763.3	30.28	769.1	63	17.2	72	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.42	747.3	30.04	763.0	68	20.0	60	SW	4	1.8	.....	8ck	0	W	.....	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	42	5.6	100	W	3	1.3	.....	.....	10ks	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.94	735.1	30.04	763.0	71	21.7	67	E	17	7.6	.....	0	0	.....	.....	0.04	1.0	Clear	
Atlantic City, New Jersey	30.26	768.6	30.28	769.1	69	20.6	80	NE	10	4.5	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.91	759.7	30.10	764.5	74	23.3	59	NE	8	3.6	.....	Haze	0	Calm	.....	0.09	2.3	Clear	
Baltimore, Maryland	30.23	767.8	30.28	769.1	70	21.1	80	E	5	2.2	.....	5k	Sm'e	NE	Calm	0	0	Fair	
Barnegat, New Jersey	30.25	768.3	30.27	768.8	69	20.6	70	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.14	714.7	30.00	762.0	66	18.9	95	E	12	5.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Boerne, Texas	28.55	725.2	29.80	756.9	77	25.0	82	S	3	1.3	.....	5k	0	S	.....	0	0	Fair	
Boise City, Idaho	26.99	685.5	29.95	760.7	62	16.7	61	E	2	0.9	.....	0	6s	.....	W	0	0	Fair	
Boston, Massachusetts	30.12	765.0	30.28	769.1	66	18.9	74	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.82	732.0	29.80	756.9	77	25.0	82	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.92	734.6	29.87	758.7	65	18.3	89	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
Brownsville, Texas	29.88	758.9	29.93	760.2	84	28.9	71	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.44	747.8	30.12	765.0	70	21.1	53	S	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	70	21.1	24	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.95	760.7	30.23	767.8	61	16.1	71	S	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Cairo, Illinois	29.67	753.6	30.04	763.0	77	25.0	77	SE	5	2.2	.....	5ck	2s	W	Calm	0	0	Fair	
Campo, California	27.37	695.2	29.94	760.5	37	2.8	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.18	766.6	76	24.4	52	NE	22	9.8	.....	Haze	5s	.....	NE	0	0	Fair	
Cape Henry, Virginia	30.21	767.3	30.23	767.8	73	22.8	67	NE	14	6.3	.....	2k	0	NW	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.14	765.5	30.15	765.8	75	23.9	64	NE	28	12.5	.....	2k	0	NE	.....	0	0	Fair	
Cape May, New Jersey	30.23	767.8	30.26	768.6	68	20.0	79	E	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Castroville, Texas	29.18	741.1	29.86	758.4	79	26.1	74	Calm	0	0	.....	2c	2s	Calm	S	0	0	Fair	
Charleston, South Carolina	30.02	762.5	30.07	763.8	76	24.4	73	NE	10	4.5	.....	2k	0	E	.....	0.17	4.3	Fair	
Charlotte, North Carolina	29.34	745.2	30.13	765.3	71	21.7	58	E	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.32	744.7	30.09	764.3	75	23.9	68	SE	1	0.4	.....	2ck	0	E	.....	0	0	Fair	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	59	15.0	59	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.38	746.2	30.04	763.0	72	22.2	62	SE	3	1.3	.....	5ck	0	W	.....	0	0	Fair	
Cincinnati, Ohio	29.45	748.0	30.08	764.0	70	21.1	57	NE	2	0.9	.....	1ck	0	Calm	.....	0	0	Clear	
Cleveland, Ohio	29.39	746.5	30.10	764.5	65	18.3	68	SE	8	3.6	.....	5ck	0	W	.....	0	0	Fair	
Coleman City, Texas	28.16	715.3	29.73	755.1	81	27.2	63	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.25	742.9	30.05	763.3	76	24.4	45	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.05	712.5	29.63	752.6	78	25.6	65	SE	3	1.3	.....	5k	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.54	750.3	29.98	761.5	81	27.2	74	S	2	0.9	.....	0	2ks	.....	.....	0	0	Clear	
Davenport, Iowa	29.40	746.7	30.01	762.2	70	21.1	61	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.44	646.2	.....	.....	59	15.0	88	NE	2	0.9	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Decatur, Texas	28.82	732.0	29.91	759.7	83	28.3	67	SE	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair	
Denison, Texas	29.15	740.4	29.90	759.4	80	26.7	74	S	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Denver, Colorado	24.82	630.4	30.04	763.0	63	17.2	67	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.09	738.9	29.92	760.0	71	21.7	75	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Detroit, Michigan	29.44	747.8	30.08	764.0	64	17.8	58	NE	4	1.8	.....	5cs	5s	N	Calm	0	0	Cloudy	
Dodge City, Kansas	27.37	695.2	29.54	750.3	72	22.2	85	SE	4	1.8	.....	0	0	.....	.....	0.10	2.5	Clear	
Dubuque, Iowa	29.33	745.0	30.00	762.0	72	22.2	58	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.23	742.4	29.88	758.9	70	21.1	85	S	1	0.4	.....	0	0	.....	.....	0.14	3.6	Clear	
Eagle Pass, Texa	29.14	740.1	29.83	757.7	84	28.9	61	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.17	766.3	30.24	768.1	56	13.3	81	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	79	S	.....	.....	4	2k	2s	S	Calm	0	0	Fair	
El Paso, Texas	26.22	666.0	.....	.....	71	21.7	66	NE	2	0.9	.....	0	8s	.....	Calm	0	0	Fair	
Erie, Pennsylvania	29.40	746.7	30.09	764.3	69	20.6	56	SE	12	5.4	.....	2c	0	NW	.....	0	0	Fair	
Escanaba, Michigan	29.35	745.5	29.98	761.5	68	20.0	79	SW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Florence, Arizona	25.32	719.3	29.92	760.0	80	26.7	25	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.91	708.9	.....	.....	64	17.8	88	NE	2	0.9	.....	10cs	0	Calm	.....	0.01	0.3	Cloudy	
Fort Davis, Texas	25.21	640.3	30.17	766.3	67	19.4	64	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	78	25.6	82	E	6	2.7	.....	.....	10s	.....	E	1.16	29.5	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	73	22.8	35	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.85	732.8	30.06	763.5	78	25.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.30	694.9	.....	.....	63	17.2	94	Calm	0	0	.....	6k	0	W	.....	1.70	43.2	Fair	
Fort McKavett, Texas	27.74	704.6	29.57	751.1	75	23.9	72	S	8	3.6	.....	1cs	1s	Calm	Calm	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.76	755.9	82	27.8	60	S	2	0.9	.....	10ck	0	Calm	.....	0	0	Cloudy	
Fort Stevenson, Dakota	28.08	713.2	.....	.....	64	17.8	89	SE	12	5.4	.....	.....	8s	.....	W	0.18	4.6	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	68	20.0	65	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.24	717.3	29.72	754.9	79	26.1	62	S	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.97	761.2	30.01	762.2	83	28.3	83	SW	6	2.7	.....	8cs	2ks	Calm	SW	0	0	Cloudy	
Graham, Texas	28.87	733.3	29.86	758.4	81	27.2	63	SE	4	1.8	.....	0	1s	.....	Calm	0	0	Fair	
Grand Haven, Michigan	29.44	747.8	30.07	763.8	65	18.3	73	S	2	0.9	.....	2c	2s	NW	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.85	758.2	81	27.2	63	SE	8	3.6	.....	0	8s	.....	E	0	0	Threatening	
Indianapolis, Indiana	29.29	744.0	30.04	763.0	71	21.7	66	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.97	761.2	30.00	762.0	84	28.9	75	S	5	2.2	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.83	732.3	29.89	759.2	80	26.7	78	SE	4	1.8	.....	1c	0	S	.....	0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.03	762.7	76	24.4	86	N	3	1.3	.....	2cs	6s	Calm	N	0.43	10.9	Fair	
Keokuk, Iowa	29.35	745.5	29.93	760.2	72	22.2	76	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Key West, Florida	30.01	762.2	30.04	763.0	83	28.3	79	NE	2	0.9	.....	2k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.14	765.5	30.16	766.1	72	22.2	71	NE	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.14	740.1	30.12	765.0	70	21.1	73	NE	3	1.3	.....	2k	Haze	Calm	.....	0.01	0.3	Fair	
La Crosse, Wisconsin	29.26	743.2	29.96	761.0	71	21.7	75	S	1	0.4	.....	2k	0	SW	.....	0	0	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	67	19.4	69	Calm	0	0	.....	2c	2ks	NW	Calm	0.03	0.8	Clear	
Laredo, Texas	29.52	749.8	29.85	758.2	80	26.7	51	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.09	738.9	29.88	758.9	75	23.9	86	S	4	1.8	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	
Little Rock, Arkansas	29.67	753.6	30.01	762.2	77	25.0	91	Calm	0	0	.....	0	8ks	.....	Calm	Inap.	Inap.	Cloudy	
Los Angeles, California	29.57	751.1	29.91	759.7	59	15.0	85	N	2	0.9	0	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.61	749.5	30.05	763.3	71	21.7	53	N	3	1.3	.....	5ck	Sm'e	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.56	750.8	30.22	767.6	77	25.0	49	E	4	1.8	.....	1cs	6s	N	N	0	0	Fair	
Madison, Wisconsin	29.05	737.9	29.99	761.7	69	20.6	65	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.24	742.7	29.92	760.0	67	19.4	89	W	16	7.2	.....	.....	10n	.....	Calm	0.26	6.6	Heavy rain	
Mason, Texas	28.35	720.1	30.02	762.5	79	26.1	66	SW	6	2.7	.....	1cs-	0	Calm	.....	0	0	Clear	
Memphis, Tennessee	29.69	754.1	30.02	762.5	76	24.4	82	SE	6	2.7	.....	0	5ks	.....	SE	0	0	Fair	
Milwaukee, Wisconsin	29.33	745.0	30.03	762.7	69	20.6	80	SW	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
Mobile, Alabama	29.95	760.7	29.99	761.7	80	26.7	87	N	8	3.6	.....	.....	10s	.....	N	0.01	0.3	Threatening	
Montgomery, Alabama	29.81	757.2	30.04	763.0	72	22.2	95	NE	4	1.8	.....	.....	10ks	.....	NE	0.45	11.4	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.16	740.7	30.11	764.8	73	22.8	63	Calm	0	0	.....	2k	0	SW	.. ..	0	0	Fair.....	
Mt. Washington, N. H.....	24.07	611.4	30.43	772.9	41	5.0	83	SE	4	1.8	.....	8k	0	Calm	.....	0	0	Cloudy.....	
Nashville, Tennessee.....	29.57	751.1	30.08	764.0	79	26.1	62	SE	1	0.4	.....	5cs	0	Calm	.....	0.03	0.8	Fair...	
New Haven, Connecticut.....	30.17	766.3	30.26	769.1	71	21.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut...	30.24	768.1	30.29	769.4	63	17.2	83	Calm	0	0	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear.	
New Orleans, Louisiana.....	29.95	760.7	30.01	762.2	82	27.8	79	W	8	3.6	.....	10c	0	Calm	.....	0.37	9.4	Cloudy.....	
Newport, Rhode Island.....	30.24	768.1	30.29	769.4	66.5	19.2	67	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York.....	30.11	764.8	30.29	769.4	70	21.1	65	NE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Dense haze.	
Norfolk, Virginia.....	30.18	766.6	30.24	768.1	73	22.8	63	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska.....	27.09	688.1	29.53	750.0	71	21.7	90	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Olympia, Washington Ter..	29.89	759.2	29.93	760.2	55.0	12.8	93	N	1	0.4	.....	5ck	5s	SW	SW	0	0	Cloudy.....	
Omaha, Nebraska.....	29.61	757.2	29.86	758.4	72	22.2	85	Calm	0	0	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy.	
Oswego, New York.....	29.88	758.9	30.20	767.1	63	17.2	72	SE	9	4.0	.....	8os	0	NW	Calm	0	0	Fair.....	
Pembina, Dakota.....	29.04	737.6	29.84	757.9	60	15.6	88	W	5	2.2	.....	0	5s	.....	Calm	0	0	Fair.....	
Philadelphia, Pa.....	30.24	768.1	30.29	769.4	66	18.9	74	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona.....	28.59	726.2	30.28	769.1	78	25.6	36	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	18.04	458.2	30.26	768.8	39	3.9	73	SW	12	5.4	.....	2k	2ks	SW	SW	0.03	0.8	Fair...	
Pilot Point, Texas.....	29.07	738.4	29.87	758.7	79	26.1	61	SE	12	5.4	.....	5k	5s	S	SE	0	0	Cloudy.....	
Ploche, Nevada.....	.....	.....	.....	.....	56	13.3	19	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.32	744.7	30.10	764.5	65	18.3	73	E	3	1.3	.....	2k	Fog	W	Calm	0	0	Fair	
Port Huron, Michigan.....	29.44	747.8	30.09	764.3	64	17.8	73	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Portland, Maine.....	30.20	767.1	30.25	768.8	63 *	17.2	72	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon..	29.90	759.4	29.97	761.2	59.5	15.3	80	NW	2	0.9	.....	.....	10s	.....	Calm.	0	0	Cloudy.....	
Prescott, Arizona.....	24.75	628.6	30.11	764.8	58	14.4	48	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida.....	30.02	762.5	30.04	763.0	82	27.8	75	SE	6	2.7	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
Red Bluff, California.....	29.64	750.3	29.88	758.9	66	18.9	54	S	3	1.3	.....	1c	0	W	.....	0	0	Clear	
Rio Grande City, Texas.....	29.74	755.4	29.94	760.5	81	27.2	78	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.56	750.8	30.17	766.3	62	16.7	67	SW	5	2.2	.....	2c	0	SW	.....	0	0	Clear..... ..	
*Roseburg, Oregon.....	29.42	747.3	29.98	761.5	56	13.3	87	NW	4	1.8	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy.....	
Sacramento, California.....	29.80	756.9	29.88	758.9	67	19.9	75	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear...	
St. Louis, Missouri.....	29.46	748.0	30.00	762.0	75	23.9	48	E	4	1.8	.....	5ck	1s	NW	Calm	0	0	Fair.....	
St. Marks, Florida.....	29.98	761.5	29.99	761.7	75	23.9	100	S	1	0.4	.....	.....	10n	.....	Calm	1.45	36.8	Light rain...	
St. Paul, Minnesota.....	29.10	739.1	29.89	759.2	72	22.2	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah.....	25.54	648.7	29.87	758.7	68	20.0	22	Calm	0	0	.....	7k	0	S	.....	0	0	Fair.....	
San Antonio, Texas.....	29.29	744.0	29.84	757.9	79	26.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.85	758.2	29.92	760.0	63	17.2	83	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.46	748.0	30.10	764.5	69	20.6	65	SE	8.	3.6	.....	8ck	2ks	NW	Calm.	0	0	Cloudy.....	
Sandy Hook, New Jersey....	30.25	768.3	30.28	769.1	67	19.4	70	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California..	29.86	758.4	29.92	760.0	53	11.7	86	W	20	8.9	.....	2k	0	W	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.42	594.9	29.96	761.0	56	13.3	51	Calm	0	0	.....	1k	0	SE	.....	0.09	2.3	Clear.....	
Savannah, Georgia.....	29.97	761.2	30.06	763.5	77	25.0	82	NE	8	3.6	.....	8k	0	E	.....	0.05	1.3	Fair.....	
Shreveport, Louisiana.....	29.81	757.2	30.02	762.5	80	26.7	82	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina.	30.12	765.0	30.16	766.1	74	23.3	86	N	10	4.5	.....	0	2ks	.....	E	0	0	Fair.....	
Socorro, New Mexico.....	25.43	645.9	29.49	749.0	67	19.4	69	Calm	0	0	.....	5ck	2s	SE	Calm	Inap	Inap.	Cloudy	
Springfield, Ill.....	29.40	746.7	30.06	763.5	70	21.1	53	E	5	2.2	.....	2ck	5s	W	W	0	0	Fair.....	
Springfield, Massachusetts	30.16	766.1	30.29	769.4	62	16.7	88	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy.....	
Stockton, Texas.....	26.91	683.5	29.91	759.7	77	25.0	31	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.28	769.1	30.33	770.4	65	18.3	54	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Toledo, Ohio, ...	29.41	747.0	30.08	764.0	63	17.2	83	E	4	1.8	.....	10c;cs	0	W	.....	0	0	Cloudy.....	
Tucson, Arizona.....	27.40	696.0	29.95	760.7	81	27.2	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon.....	29.46	748.3	29.93	760.2	70.0	21.1	53	N	2	0.9	.....	0	5ks	.....	W	0	0	Fair	
Uvalde, Texas.....	29.65	753.1	29.82	757.4	80	26.7	70	E	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi.....	29.77	756.1	30.02	762.5	77	25.0	91	SE	3	1.3	.....	Haze	5s	Calm	SE	1.18	30.0	Fair.....	
Virginia City, Montana.....	24.28	616.7	29.76	755.9	54	12.2	74	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Visalia, California.....	29.49	749.0	29.85	758.2	62	16.7	56	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	30.15	765.8	30.26	768.6	70	21.1	70	E	4	1.8	.....	1c	5ks;sme	NW	NE	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	72	22.2	46	E	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	30.07	763.8	30.14	765.5	74	23.3	68	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada.....	29.55	640.0	29.91	759.7	62	16.7	36	SW	7	3.1	.....	4k	0	NW	.....	0	0	Fair.....	
Wood's Holl, Mass.....	30.25	768.3	30.29	769.4	67	19.4	54	N	4	1.8	.....	Haze	0	.....	.....	Inap	Inap.	Dense haze.	
Yankton, Dakota.....	28.69	728.7	29.91	759.7	71	21.7	90	S	4	1.8	....	.....	Fog	.....	Calm	0	0	Foggy	
Yuma, Arizona.....	29.59	751.6	29.75	755.6	76	24.4	25	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.22	640.6	.....	.....	67.0	19.4	78	Calm	.....	.....	0	5cs	4ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.....	29.90	759.4	29.98	761.5	81	27.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.00	762.0	30.00	762.0	78	25.6	82	E	.....	.....	2	5k	5s	E	.....	0	0	½ clouded...	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,423 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,500 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.466 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.00‡	762.0‡	.....	.....	84	28.9	87	NW	5	2.2	.....	.....	8	.....	NW	0.25	6.3	.....	.....	Threat'ing..	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡	.....	.....	79	26.1	82	SW	.....	.....	1	.....	1k	.....	Calm	0	0	.....	.....	Clear.....	
Adams. San Francisco, Cal.	29.91‡	759.7‡	.....	.....	57	13.9	94	SW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alliance, Flushing, Netherlands..	29.62‡	752.3‡	.....	.....	60	15.6	.....	SW	.....	.....	7	.....	10	.....	SW	.....	.....	.....	.....	Raining.....	
Ashuelot, Yokohama, Japan	29.94‡	760.5‡	.....	.....	79	26.1	86	WSW	.....	.....	1	.....	5	.....	NE	.....	.....	Smooth	.....	Fair	
Colorado New York, N. Y.	30.23‡	767.8‡	.....	.....	68	20.0	74	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, Portland, Maine	30.24‡	768.1‡	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, N. 39° 47′, W. 75° 27′	30.28‡	769.1‡	.....	.....	68	20.0	100	NE	.....	.....	1	.....	3	.....	NE	.....	.....	.....	.....	Clear	
Enterprise, Cronstadt, Russia	29.66‡	753.4‡	.....	.....	61	16.1	82	WNW	.....	.....	3	.....	7	.....	WNW	Blank	Blank	.....	.....	Cloudy.....	
Franklin. Norfolk, Va.	30.21‡	767.3‡	.....	.....	73	22.8	72	ENE	6	2.7	.....	.....	5	.....	ENE	.....	.....	.....	.....	Fair	
Hartford Montevideo, Uruguay	30.09‡	764.3‡	.....	.....	48	8.9	56	SSW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mar Pd. Navy Yard, Cal.	30.00‡	762.0‡	.....	.....	61	16.1	88	SW	4	1.8	.....	.....	5?	.....	SW	.....	.....	.....	.....	Clear?.....	
Kearsarge, St. Johns, New Foundland.	29.97‡	761.2‡	.....	.....	55	12.8	80	NW	.....	.....	2-3	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Michigan, Erie, Pa.	30.05‡	763.3‡	.....	.....	68	20.0	70	SE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Shanghai, China	29.77‡	756.1‡	.....	.....	83	28.3	96	SSE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.95‡	760.7‡	.....	.....	83	28.3	83	Calm	.....	.....	0	c	.....	.....	.....	0	0	.....	.....	D. clouds.....	
New Hampshire. Port Royal, S. C.	30.05‡	763.3‡	.....	.....	77	25.0	82	ENE	16	7.2	.....	.....	8	.....	E	0.09	2.3	.....	.....	Fair.....	
Onward, Callao, Peru	29.99‡	761.7‡	.....	.....	58	14.4	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Shanghai, China	29.78‡	756.4‡	.....	.....	83	28.3	89	SSE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	72	22.2	76	NE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Clear?.....	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	57	13.9	58	Calm	0	0	.....	.....	5	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Portsmouth, Boston, Mass.	30.29‡	769.4‡	.....	.....	65	18.3	73	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Misty.....	
Powhatan, N. 39° 42′, W. 73° 11′	30.26‡	768.6‡	.....	.....	68	20.0	74	ESE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Quinnebaug, Constantinople, Turkey	29.91‡	759.7‡	.....	.....	76	24.4	73	NNE	.....	.....	5	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Ranger, Amoy, China	29.83‡	757.7‡	.....	.....	86	30.0	83	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Richmond, Yokohama, Japan	29.93‡	760.2‡	.....	.....	96	35.6	80	S	.....	.....	2	.....	.....	.....	.....	0	0	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas	29.93‡	760.2‡	.....	.....	79	26.1	95	E	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Santee, Annapolis, Md.	30.26‡	768.6‡	.....	.....	71	21.7	53	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Saratoga, New London, Conn.	30.19‡	766.8‡	.....	.....	65	18.3	94	E	.....	.....	2	.....	5	.....	NE	0	0	.....	.....	D. clouds.....	
St. Louis, League Island, Pa	30.25‡	768.3‡	.....	.....	68	20.0	74	E	2	0.9	.....	.....	2	.....	NE	0	0	.....	.....	Clear.....	
Trenton, Flushing, Netherlands.	29.62‡	752.3‡	.....	.....	60	15.6	94	SSW	.....	.....	4-0	.....	10	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.92‡	760.0‡	.....	.....	60	15.6	94	WSW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Vandalia, New Bedford, Mass.	30.23‡	767.8‡	.....	.....	65	18.3	89	NW	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Clear	
Wabash. Boston, Mass.	30.24‡	768.1‡	.....	.....	62	16.7	83	NW	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, N. 42° 12′, E. 15° 28′	29.93‡	760.2‡	.....	.....	75	23.9	68	ENE	.....	.....	1	.....	5	.....	E	.....	.....	Smooth	E	Fair.....	
Wachusett, New Orleans, La	30.00‡	762.0‡	.....	.....	80	26.7	91	W	.....	.....	2	.....	8	.....	Calm	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead **of 7:35 A. M., Washington time.** The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			D. clouds.
S. S. Colima, N. 21° 09′, W. 105° 51′..†		29.88‡	758.8‡	80	26.7	96	ESE			2		10		NE	0.15 in. or 3.8 mm			D. clouds.	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Faller.
S. S. Zealandia, S. 1° 02′, W. 168° 50′		29.83‡	757.7‡				E			5				W		Mod'ate	E	Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 40° 29′, W. 145° 25′..†		29.98‡	761.5‡	64	17.8	83	W			5		5k			0	Mod'ate	W	Misty	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson, N. 44° 39′, E. 168° 29′..†		29.94‡	760.6‡	54	12.2	80	SE			4		ks			0	Smooth	SE	D. clouds	J .A.Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 28′, W. 12° 38′		29.92‡	760.0‡				NW			6		5		NW		5	W	Cloudy†	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, N. 49° 29′, W. 30° 26′		30.14‡	765.5‡	56	13.3	81	SW			3		3		W	0	Mod'ate	SW	Cloudy†	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland, N. 41° 49′, W. 62° 51′		30.31‡	769 9‡				N	15	6.7			2		N		Smooth		Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 34° 20′, W. 77° 00′		30.08‡	764.0‡	78	25.6	69	NE	14	6.3			2k		NE	0	Rough	NE	Clear	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			N. B. Foss.
Brigantine "George of Halifax", N. 30° 50′, W. 70° 43′	†	30.09‡	764.8‡				S			1		10		Calm	Heavy	Mod'ate	WSW	Squally	Capt. George Gardner.
Schooner Harry and Fred.																			Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden,																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

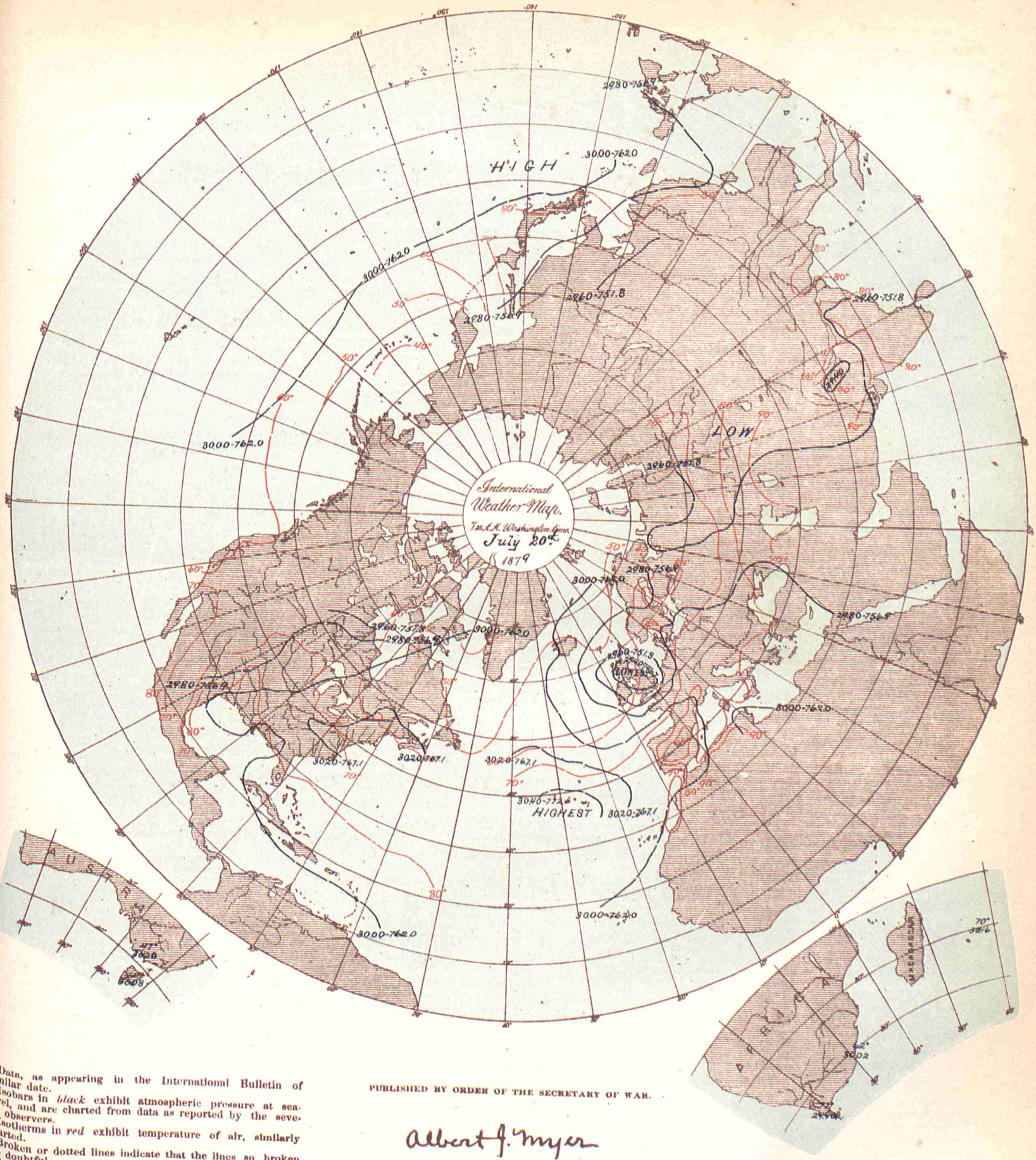
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 21, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.97	761.1	68.2	20.1		NE			2		2			0	0	Fair	
Nemours			29.72	754.9	81.7	27.6	60	N			1		2			0	0	Fair	Kesxuche.
Algiers			29.89	759.3	78.8	26.0	76	NNE			1		0			0	0	Clear	Tourillere.
La Calle			29.94	760.4	74.8	23.8	85	ENE			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.02	762.5															Gau.
Saida			29.93	760.3	94.3	34.6	11	NNW			3		0			0	0	Clear	Herbin.
Tebessa			29.93	760.3	89.6	32.0	30	W			3		0			0	0	Clear	Watrin.
Geriville			29.90	759.5	82.2	27.9	20	WNW			4		5			0	0	Cloudy	Brugnlaux.
Laghouat			29.91	759.8	94.6	34.8	34	SE			2		0			0	0	Clear	Bertrand.
Biskra			29.90	759.4	96.1	35.6	35	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram																			
Orucow, I. R. Observatory	29.15	740.5	29.68	753.9	70.2	21.2	50	W			2		8			0.059	1.5		Prof. Ivan Stosir.
Eperies	28.91	734.4	29.63	752.7	78.8	26.0	44	W	9.8	4.4			9			0	0		Prof. Dr. Karlinski, Dir.
Gratz	28.85	732.8	29.68	753.8	77.9	25.5	56	S			3		9s			0	0		Julius Mikolik.
Hermannstadt	28.55	725.1	29.78	756.3	69.0	15.0	89	NNW			4		10			0	0		Andreas Rospini.
Kremsmünster	28.37	720.7	29.69	754.2	84.9	29.4	48	SSE			3		7			0.008	0.2		Prof. A. Gottschling.
Lemberg	28.42	721.8	29.74	755.3	66.5	13.6	94	WSW			2		10			Inap.	Inap.		Prof. C. Wagner.
Pola	28.76	730.4	29.68	753.9	76.6	24.8	54	SW			1		4			0	0		Dr. T Stanecki.
Szathmar	29.61	752.0	29.71	754.7	81.5	27.5	64	SSE			5		7			0	0		I.R.HydrographicOffice.
Szegedin	29.33	744.9	29.76	755.9	84.2	29.0	39	S			3		7			0.146	3.7		Julius Csics, S. J.
Trieste	29.41	747.0	29.67	753.6	84.6	29.2	48	S			1		3			0	0		Karl Stancel.
Vienna	29.61	752.1	29.71	754.7	83.5	28.6	52	SW			1		9			0	0		P. Busin.
	29.06	738.1	29.81	757.1	63.3	17.4	86	WSW			1		10			0	0		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.49	749.0	29.59	751.6	57.5	14.2	.....	N	21	9.4	.....	.....	9	.....	.....	0.080	2.03	Squally.....	W. Boswell.
Ardrossan	29.59	751.6	29.60	751.8	56	13.3	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	Overcast?...	Wm McNeil &G.Carrick
Armagh, Observatory	29.47	748.5	29.60	751.1	57.8	14.3	.....	NW	9	4.0	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.49	749.0	55.7	13.2	.....	WNW	35	15.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.46	748.3	58.9	14.9	.....	NW	18	8.0	.....	.....	10	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.06	738.1	29.45	748 0	58.4	14.7	.....	NW	.....	.....	2	.....	10	.....	.....	0.55	14.0	Overcast....	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.27	743.4	29.36	745.7	58.0	14.4	.....	WNW	.....	.....	3	.....	10	.....	.....	0.490	12.45	Raining	H. Todd.
Cardington	.....	.....	29.36	745.7	60.0	15.6	.....	W	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.28	743.7	29.40	746.7	56.1	13.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	29.60	751.8	29.64	752.8	57	13.9	.....	NNW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.38	746.2	29.41	747.0	58	14.4	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	Showery	J. Costello.
Falmouth, Observatory	29.56	750.8	29.79	756.7	58.0	14.4	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
Fort Napier (Natal)	27.63	701.6	29.92	760.0	64.6	18.1	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.79	756.7	30.02	762.5	74	23.3	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.79	756.7	60	15.6	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.87	758.7	29.92	760.0	80.8	27.1	.....	E	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.39	746.5	29.60	751.8	60.9	16.1	.....	NNW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean. [C.
Great Yarmouth	29.24	742.7	29.24	742.7	55	12.8	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.25	742.9	29.42	747.3	57.1	13.9	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.49	749.0	29.71	754.6	57.5	14.2	.....	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.77	756.1	29.89	759.2	62	16.7	.....	NW	.....	.....	8	.....	4k	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.58	751.3	29.60	751.8	57	13.9	.....	WNW	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.48	748.8	29.77	756.1	56.8	13.8	.....	W	.....	.....	8	.....	10	.....	.....	.....	.....	Threatening	J. Fisher.
Kew, Observatory	29.44	747.8	29.48	748.8	58.0	14.4	.....	W	15	6.7	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum	29.16	740.7	29.41	747.0	57.5	14.2	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.87	758.7	29.94	760.5	82	27.8	.....	NW	.....	.....	2	.....	1ks	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.59	751.6	29.68	753.9	56	13.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.06	763.5	81.5	27.5	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.21	741.9	29.40	746.7	60.3	15.7	.....	NW	.....	.....	6	.....	10d	.....	NW	0.240	.6.10	Raining.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.94	735.1	29.45	748.0	56.0	13.3	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.48	748.8	58	14.4	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Squally.....	H. E. Bellamy.
Plymouth	29.64	752.8	29.71	754.6	58.8	14.9	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.77	756.1	29.88	758.9	59	15.0	.....	NNW	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.52	749.8	29.68	753.9	58	14.4	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.70	754.4	53.0	11.7	.....	N	26	11.6	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	87.2	30.7	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	29.21	741.9	29.48	748.8	58.7	14.8	.....	NW	.....	.....	5	.....	10	.....	.....	0.33	8.4	Raining	W. F. Cooper.
Silloth Rectory	29.50	749.3	29.63	760.0	59.7	15.4	80	SE	.....	.....	3	.....	9	.....	.....	0.070	1.78	D. clouds...	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.47	748.5	58.4	14.7	.....	WNW	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Stratfield, Turgiss	29.28	743.7	29.49	749.0	59.4	15.2	.....	W	.....	.....	2-3	.....	10	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.75	756.4	29.79	756.7	61	16.1	.....	NW	.....	.....	7	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.95	760.7	29.97	761.2	56.3	13.5	.....	NW	23	10.3	.....	.....	8	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	56.8	13.8	87	NW	4.4	2.0	.....	8	8	.....	.....	0.100	2.54	Raining.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.06	763.5	46	7.8	86	SW	.....	.....	2	.....	10kn	.....	.....	0.01	0.3	Covered.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.59	751.6	57.1	13.9	.....	NE	.....	.....	2	.....	10ks	.....	.....	0.26	6.6	Overcast.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.16	765.9	70.3	21.3	61	E	16.0	7.2	.....	2	4	ESE	ESE	0.03	0.8	Squally	C. Meiddrum.
Melbourne, Observatory	30.18	766.6	30.27	768.8	49.9	9.9	74	SSW	6	2.7	.....	.....	9	.....	.....	0.06	1.5	Raining	R. L. J. Ellery.
Monach Li-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel. Height scale 0—9	Sea or swel. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00', E. 29° 00'	.....	.....	29.88‡	757.7‡	76.5	24.7	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Capt.W.J.L.Wharton.
Agnes Wilson, N. 45° 00', W. 32° 45'	.....	.....	30.32	770.1	68	20.0	.....	SSW	.....	.....	3	.....	10	.....	.....	3	w;sSw	Foggy.....	Capt. H. W. Dyke.
Astarte, N. 57° 00', W. 12° 00'.....*	.....	.....	29.88‡	758.9‡	54	12.2	.....	NNW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	Capt. Parson.
Barque Commewyne, N. 26° 25', W. 58° 05'	.....	.....	30.24	768.1	77.5	25.3	.....	NNE	.....	.....	3	.....	9	.....	.....	.....	.....	Showery.....	Capt. A. Buchan.
Theophane, S. 10° 00', W. 12° 55'	.....	.....	30.15‡	765.8‡	77.5	25.3	.....	ESE	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.23	666.2	29.95	760.7	65.8	18.8	93	Calm	.....	.....	0	8ck	.....	.....	.....	0.8	20.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.43	747.6	29.48	748.7	63.9	17.7	74	SE	.....	.....	4	.....	5	.....	.....	.....	.....	Raining
Fanöe	29.30	744.2	29.32	744.7	62.8	17.1	74	SE	.....	.....	4	.....	9	.....	.....	.....	.....	Raining
Godthaab (Greenland)	30.00	762.0	30.04	763.1	41.0	5.0	89	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy
Stykkisholm (Iceland)	30.12	765.1	30.17	766.2	52.7	11.5	97	W	.....	.....	4	.....	8	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.91	759 7	29.95	760.6	53.1	11.7	81	NE	.....	.....	2	.....	7	.....	.....	.....	.....	.....
Vestervig	29.26	743.2	29.37	746.0	58.1	14.5	93	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Raining
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.27	743.4	29.32	757.4	61.5	16.4	81	W	.....	.....	1	.....	5	.....	W	0.244	6.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.47	748.6	29.58	751.4	58.6	14.8	76	WNW	.....	.....	5	.....	8	.....	E	0.441	11.2	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.27	743.4	29.52	749.7	55.0	12.8	81	W	.....	.....	7	.....	10	.....	W	0.980	24.9	Raining	Klein, Commandant.
Avignon, Normal School	29.77	756.2	29.85	758.2	78.4	25 8	37	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Giraud, Dire
Bar-sur-Seine	29.21	741.9	29.76	755.8	67.9	14.4	78	WSW	.....	.....	3	.....	10	.....	W	0.335	8.5	Covered	O. Saillard, Director.
Beauvais, Normal School	29.36	745.8	29.62	752.4	61.7	16.5	71	W	.....	.....	5	.....	8	.....	WNW	0.551	14.0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.98	736.0	29.35	755.3	61.0	16.1	62	SSW	.....	.....	5	.....	10	.....	SW	0.429	10.9	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.05	737.8	29.97	761.2	60.8	16	79	S	.....	.....	5	.....	n	S	S	0.24	6.	.....	Marlot, Director.
Bourges, Normal School	29.25	743.0	29.79	756.6	63.0	17.2	75	W	.....	.....	5	.....	5kn	W	W	0.098	2.5	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.62	752.4	29.88	758.5	60.8	16.0	73	WNW	.....	.....	5	.....	10	.....	NW	0.079	2.00	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.57	751.1	29.87	761.2	73.8	23.2	39	NW	.....	.....	2	.....	5	.....	NW	0.055	1.4	Cloudy	September, Dir.
Caen, Normal School	29.65	753.1	29.72	754.9	60.4	15.8	73	SW	.....	.....	1	.....	.....	.....	W	0	0	.....	Lair, Director.
Chartres, Normal School	29.19	741.5	29.74	755.5	58.6	14.8	60	W	.....	.....	3	.....	10	.....	W	0.24	6.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.37	746.1	29.69	754.1	59 0	15.0	68	SW	.....	.....	2	.....	8	W	W	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.54	725.0	29.87	758.7	62.2	16.8	52	SW	.....	.....	1	.....	10	.....	W	0	0	.....	Allnard, Director.
Commercy, Normal School	28.85	732.8	29.70	754.4	55.9	13.3	86	SW	.....	.....	5	.....	5kn	SW	SW	0.933	23.7	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.76	730.5	29.90	759.5	74.5	23.6	25	NW	.....	.....	3	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.13	740.8	29.87	758 7	68.0	20.0	51	NW	.....	.....	5	.....	2k	N	.....	0	0	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.74	755.5	29.96	761.0	60.1	15.6	79	W	.....	.....	3	.....	8	.....	W	0.181	4.6	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.52	749.8	29.82	757.5	58.6	14.8	70	NW	.....	.....	5	.....	8	.....	WNW	0.248	6.3	Very cloudy	Pourrier, Director
Lons-Le-Saulnier, N. School	29.05	738.7	29.90	759.4	63.5	17.5	88	SW	.....	.....	5	.....	10n	.....	SW	0.24	6.	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.84	757.9	29.94	760.4	61.5	16.4	53	W	.....	.....	5	.....	.....	.....	W	0.189	4.8	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.56	750.8	29.82	757.5	71.4	21.9	68	SW	.....	.....	3-5	.....	6	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.68	728.4	29.71	754.5	67.2	14	71	SW	.....	.....	5	.....	10	.....	SW	0.71	18.	Covered	Barbier, Director
Mont-Louis	24.86	631.5	30.18	766.5	55.0	12.8	81	NW	18.6	8.3	.....	.....	8	.....	.....	0	0	.....	M. Cave.
Nismes, Normal School	29.72	755.0	29.88	759.0	76.6	24.8	29	NW	.....	.....	5	.....	2	.....	W	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.42	747.2	58.5	14.7	75	W	.....	.....	5	.....	10	.....	W	0.157	4.0	Sprinkling	Marie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.59	573.7	.....	.....	44.6	7.0	.....	SW	.....	.....	5	.....	9	.....	.....	0.012	0.3	Threatening	Gen'l de Nansouty.
Perpignan	29.84	758.0	29.96	760.6	68.9	20.5	53	NW	26.2	11.7	.....	.....	8	W	.....	Inap.	Inap.	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.02	635.5	.....	.....	41.0	5.0	100	W	.....	.....	7	.....	.....	.....	.....	0.217	5.5	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.96	760.9	29.99	761.7	66.6	19.2	63	W	.....	.....	3	.....	10	W	W	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.56	750.7	29.64	752.9	56.3	13.5	83	W	.....	.....	5	.....	10	.....	W	0 402	10.2	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.72	755.0	29.76	755.8	60.8	16.0	72	WNW	.....	.....	5	.....	8	WNW	WNW	Inap.	Inap.	Sprinkling	Lt. Herouet, Director.
Saint Maur (near Paris)	29.54	750.3	29.71	754.5	59.0	15.0	71	WSW	.....	.....	3-5	.....	10	.....	W	0.004	0.1	.....	E. Renou, Director.
Tarbes, Normal School	28.97	735.7	30.00	762.1	73.4	23	59	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.33	745.0	30.06	763.4	67.6	19.8	52	WNW	.....	.....	5	.....	8	.....	WNW	0.043	1.1	.....	M. Juller Mercadier.
Tours	29.65	753.0	29.84	758 0	61.0	16.1	64	W	.....	.....	5	.....	10	.....	W	0.114	2.9	.....	Cousin-Marquet.
Versailles, Observatory	29.21	741.9	29.70	754.4	57.2	14.0	74	WNW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Dr. A. Berigay, Director
Villefranche-sur-Saone, N.S.	29.16	740.7	29.85	758.2	68.4	20.2	67	SE	.....	.....	2	.....	5	.....	E	0.04	1.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.2	29.88	758.9	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.28	743.6	29.88	758.9	67.6	19.8	82	NNW	.....	.....	1	.....	8	.....	NW	0.010	0.25	Very cloudy	Ch. André, Director.
Nice	.....	.....	29.66	753.1	82.4	28.0	28	W	.....	.....	7	.....	8	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.78	755.1	29.75	755.7	80.6	27.0	90	SE	8.1	3.6	.....	.....	1	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 6; or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following, Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:06 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,278 feet; Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,556.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bambergg	28.81	731.8	29.64	752.9	66.4	19.1	56	W			6		7	W		0.850	21.6		Prof. Dr. Hoh.
Berlin	29.41	747.0	29.58	751.2	67.6	19.8	59	SW			4		9			0.283	7.2		Prof. Dr. Arndt.
Breslau	29.16	740.6	29.68	753.9	67.6	19.8	76	SSW			3		10			0.306	7.78		Royal Universty Ob's'y.
Carlsruhe	29.25	743.0	29.67	753.5	63.0	17.2	65	SW			6		10	SW		0	0		Albert Senz.
Cassel	28.97	735.8	29.57	751.0	63.0	17.2	72	SW			6		8	SW		0	0		Dr. H. Möhl.
Crefeld	29.24	742.6	29.39	746.6	68.1	14.5	79	SW			7		10			0.79	20.		Director Lose.
Emden			29.24	742.8	61.9	16.6	83	SW			3		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.24	742.8	29.60	751.8	66.2	19.0		WSW			4		8			0.854	21.7		Physical Society.
Freienwalde on the Oder	29.52	749.9	29.56	750.9	69.3	20.7	64	SW			3		10ks	SW		0.142	3.6		Dr. Assmann.
Friedrichshafen	28.34	719.7	29.72	755.0	64.4	18.0	59	W			6		4	W		0	0		M. Wilhelm.
Hamburg	29.33	745.0	29.40	746.7	63.3	17.4	82	S			6		10kn			0.598	15.2	Showery	Captain F. Hegemann.
Kiel	29.35	745.6	29.37	746.0	63.1	17.3	80	ESE			1		8			0.530	13 45		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.54	750.2	29.61	752.2	78.4	25.8	53	SE			4		4			0.004	0.1		Prof. E Luther.
Köslin			29.53	750.0	71.2	21.8		S			4		4			0.079	2.0		H. Müller.
Leipsic Observatory	29.26	741.7	29.61	752.1	63.0	17.2	74	SW			3		10	SW		0.437	11.1	Raining	Prof. Bruhns, Privy Counselor.
Memel	29.65	753.2	29.70	754.4	74.1	23.4	43	SE			2		1cs						Skalweit.
Munich (München)	27.90	708.7	29.74	755.5	66.7	19.3	46	W			8		5	W		0.169	4.3		Dr. C. Larg.
Neufahrwasser	29.59	751.5	29.60	751.9	78.8	26.0	58	SSW			1		10			0.610	15.5		A. Lothes.
Posen	29.37	746.1	29.65	753.1	68.0	20.1	79	S			4		10			0.130	3.3		Dr. Magener.
Strassburg (in Alsace)	29.20	741.7	29.73	755.2	64.8	17.9	68	SSW			4		10	SW		0.463	11.76	Raining	Imp. University Observatory.
Stuttgart	28.76	730.5	29.67	753.5	65.7	18.7	46	W			6		7	W				Light rain	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.22	716.7	29.66	753.4	65.3	18.5	53	W	31	14			6ck	W	W	0.359	8.9		T. Hopfner.
Wustrow	29.45	748.0	29.47	748.6	70.2	21.2	65	S			4		9s			0.264	6.7		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.4	89.1	31.7		SW			1.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.50	749.4	29.56	750.7	83.4	28.6	69	SW	22.0	9.8			2			0	0	D. clouds	
Deesa	29.15	740.3	29.61	752.0	80.6	32.5	44	SSW	16.8	7.5			5		SW	0	0	Squally	
Bombay	29.67	753.6	29.71	754.6	82.7	28.2	79	WNW	7.0	3.1			10		S	0	0	Overcast	
Poona	27.86	707.7	29.72	754.8	76.3	24.6	68	W					10		WNW	0	0	Gloomy	
Lahore	28.76	730.6	29.48	748.7	96.0	35.6	44	SE	3.7	1.6			8			0.03	0.8	D. clouds	
Belgaum	27.18	690.3	29.71	754.7	73.0	22.8	87	WNW	16.0	7.2			10	W	W	0	0	D. clouds	
Roorkee	28.67	728.2	29.55	750.7	84.0	28.9	77	E	4.8	2.2			10			0	0		
Agra	28.99	736.4	29.54	750.4	88.7	31.5	66	SW					10		S	0	0		
Nagpur	28.62	726.9	29.67	753.5	74.7	23.7	94	Calm	2.0	0.9			10			1.14	29.0	Overcast	
Lucknow	29.22	742.1	29.59	751.6	78.8	26.0	93	Calm	3.0	1.3			10			1.41	35.8	Overcast	
Allahabad	29.32	744.8	29.63	752.6	82.2	27.9	86	NE	2.3	1.0			10			0.19	4.8	Overcast	
Patna	29.46	748.2	29.64	752.8	81.5	27.5	89	ESE	0.5	0.2			10	ESE	ESE	0.92	23.4	Drizzling	
Hazaribagh	27.67	702.7	29.66	753.9	73.8	23.2	87	WNW	9.6	4.3			10			0.47	11.9	Raining	
Cuttack	29.63	752.6	29.72	754.7	81.5	27.5	81	Calm	2.0	0.9			8			0	0	D. clouds	
Calcutta (Alipore)	29.68	754.0	29.71	754.5	80.5	27.1	87	S	4.0	1.8			3	S		0	0	D. clouds	
Goalpara	29.30	744.3	29.69	754.1	81.8	27.7	81	Calm	2.1	0.9			1			0.29	7.4		
Chittagong	29.67	753.6	29.77	756.0	80.6	27.0	88	Calm	4.6	2.1			4			0	0		
Sibsagar	29.38	746.3	29.71	754.7	84.5	29.2	73	N	2.2	1.0			7			0.02	0.5	D. clouds	
Jubbulpore	28.32	719.4	29.70	754.4	73.3	22.9	98	Calm	0.5	0.2			10		N	2.09	53.1	Drizzling	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 463.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.31	744.5	29.71	754.6	73.0	22.8	75	W	3.1	1.4	.....	.....	10	.....	.....	0	0	....	Prof. Giovanni Clodig.
Milan	29.13	739.9	29.62	752.4	82.8	28.2	43	SE	.....	.....	2	.....	7	SW	.....	0.264	6.7	.....	Prof. Schiaparelli.
Padua	29.55	750.6	29.66	753.3	80.2	26.8	43	SSW	5.6	2.5	.....	.....	10	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.72	729.5	29.59	751.5	80.6	27.0	49	ESE	1.8	0.8	.....	.....	6	WSW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.54	750.2	29.72	754.9	71.6	22.0	74	SE	13.7	6.1	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.77	705.4	29.57	751.0	75.9	24.4	53	E	.....	.....	4	.....	1	SSE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.65	753.1	29.70	754.3	82.2	27.9	44	SW	11.2	5.0	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.50	749.2	29.74	755.5	82.4	28.0	41	W	.....	.....	6	.....	5	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.71	754.7	29.80	756.8	77.0	25.0	67	S	11.9	5.3	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.69	754.1	29.86	758.4	77.9	25.5	54	SW	16.1	7.2	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.59	751.5	29.83	757.8	87.3	30.7	28	WSW	8.1	3.6	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.00	736.6	29.84	757.9	84.2	29.0	60	NW	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.72	754.8	29.90	759.5	81.0	27.2	49	NW	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.5	29.91	759.8	76.8	24.9	65	NE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.79	756.6	29.86	758.5	84.4	29.1	48	E	3.5	1.7	.....	.....	0?	NW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.36	745.8	29.92	759.9	77.0	25.0	67	ESE	8.7	3.9	.....	.....	3	E	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.93	760.2	81.1	27.3	77	SSW	5.5	2.4	.....	.....	8s	.....	.....	0	0	Cloudy.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.93	760.2	79.2	26.2	87	SSW	3.2	1.4	.....	.....	6s	.....	.....	0.030	0.76	.....	S. Takehayashi.
Tokei (Yeddo) Observatory	29.84	757.9	29.91	759.7	77.8	25.4	85	S	2.7	1.2	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Wakayama	29.90	759.4	29.95	760.7	81.0	27.2	78	S	8.4	3.7	.....	.....	C	.....	.....	0	0	Clear.....	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.05	636.2	30.03	762.8	69.9	15.5	76	Calm	.....	.....	0	.....	10	.....	SE	0.40	10.2	Covered.....	Prof. L. Perez.
Leon	24.42	620.3	30.04	763.0	64.0	17.8	79	Calm	.....	.....	1	5c	0	SE	.....	0.012	0.3	½ clouded...	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.4	30.08	763.9	55.4	13.0	81	NW	5.6	2.5	.....	10k	0	NW	.....	0.008	0.2	Covered.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	64.4	18.0	72	N	.....	.....	1	9pc	5k5	.....	SE	0	0	Covered.....	M. V. de Leon, M. E
Tlacotalpam	29.80	759.2	29.90	759.5	79.2	26.2	89	NW	.....	.....	1	1	4	NE	W	0.18	4.6	½ clouded...	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.1	30.18	766.5	62.1	16.7	67	E	.....	.....	1	.....	10	.....	E	0	0	Covered.....	G. Barreda, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	573.6	30.15	765.7	57.4	14.1	80	NE	.....	.....	3	10c	0	Calm	.....	0	0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	55.4	13.0	83	Calm	0	0	.....	9ck	0	NE	.....	0	0	Cloudy.....	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	78.1	25.6	86	NE	.....	.....	2	2	6n	Calm	NE	Inap.	Inap	Raining.....	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.32	744.7	29.32	744.7	57.4	14.1	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.551	14.0	.....	
Groningen	29.21	741.9	29.22	742.3	59.2	15.1	.....	S	.....	.....	1	.....	.....	.....	.....	0.472	12.0	.....	
Helder	29.17	741.0	29.17	741.0	58.6	14.7	.....	SSW	.....	.....	1	.....	.....	.....	.....	0.539	13.7	.....	
Hellevoetsluis	29.25	742.9	29.26	742.9	56.7	13.7	95	WSW	.....	.....	6	.....	.....	.....	.....	0.559	14.2	.....	
Utrecht	29.22	742.1	29.26	743.3	56.6	13.6	96	SW	.....	.....	5	.....	10	.....	.....	1.54	39.2	Dull.....	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.50	749.3	29.56	750.7	77.4	25.2	32	E	13.4	6.0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.73	755.1	29.77	756.1	69.8	21.0	49	NNE	4	2	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.48	748.8	29.62	752.3	73.2	22.9	49	NE	13	6	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.85	758.3	29.90	759.4	51.4	10.8	84	NNE	13	6	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at *Bergen refer to* 2h., *p. m.*, instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.24	768.1	30.43	772.8	77.0	25.0	73	ENE	10.5	4.7	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.0	29.03	760.2	93.9	34.4	17	NW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.03	762.7	30.11	764.9	73.6	23.1	74	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.9	30.07	763.8	76.1	24.5	58	N	27.3	12.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.34	770.5	30.40	772.2	77.5	25.3	74	NE	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.01	762.3	61.2	16.2	.....	WNW	.....	.....	2	.....	10	.....	WNW	1	WNW	Overcast	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	.....	.....	30.01	762.2	79.2	26.2	.....	ENE	.....	.....	2	.....	5	.....	ENE	1	.....	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.84	758.0	84.2	29.0	.....	SW	.....	.....	2	.....	0	.....	SW	1	.....	Blue sky	J.G. Feigo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.24	742.6	29.63	752.7	78.8	26.0	51	S	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.34	745.2	29.74	755.4	71.8	22.1	61	SW	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.47	748.6	29.71	754.5	70.9	21.6	68	N	2	1	.....	.....	10k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.64	752.9	29.66	753.3	68.6	14.8	94	N	4	2	.....	.....	10n	.....	.....	.....	.....	Light rain	Central Physical Obs.
Kieff	29.16	740.7	29.76	755.9	77.2	25.1	43	W	7	3	.....	.....	8k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.50	756.8	29.87	758.6	85.8	29.9	42	S	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	758.3	29.87	758.8	85.8	29.9	41	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.13	739.9	29.65	753.2	69.1	20.6	73	SSW	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.55	750.6	29.74	755.5	89.6	32.0	26	WNW	9	4	.....	.....	*	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.60	751.9	29.62	752.4	69.8	21.0	94	Calm	0	0	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Scoliwerstow.
Tiflis	28.41	721.6	29.72	754.8	97.2	36.3	29	SE	4	2	.....	.....	4cs	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.87	758.7	29.79	756.6	90.9	32.7	38	E	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.23	742.4	29.67	753.6	74.5	23.6	47	W	0	0	.....	.....	6	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.31	744.4	29.56	750.9	69.1	20.6	68	WSW	13	6	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.59	726.3	29.52	749.7	64.8	18.2	81	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Meteorological Obs.
Nukuss	29.40	746.8	29.61	752.2	106.9	41.6	19	SSW	7	3	.....	.....	7ks	.....	.....	.....	.....	.....	
Tashkend	28.07	713.0	29.49	749.1	96.8	36.0	39	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.88	733.6	29.35	745.4	75.2	24.0	57	S	4	2	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.24	742.6	29.51	749.6	73.9	23.3	68	E	4	2	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.52	749.8	29.66	753.4	83.8	28.8	69	Calm	0	0	.....	.....	7n	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light rain	
Vladivostock	29.63	752.6	29.73	755.1	68.4	20.2	92	S	13	6	.....	.....	8n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.72	755.0	29.81	757.2	56.7	13.7	62	N	2	1	.....	.....	10n	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.4	29.88	759.0	79.9	26.6	55	S	5.1	2.28	.....	.....	1	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.08	764.1	30.14	765.5	64.2	17.9	88	NW	3.7	1.65	.....	.....	10	.....	.....	0.157	4.0	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.12	688.9	.....	.....	74.3	23.5	54	NE	5.1	2.28	.....	0	3	.....	.....	0	0	Light clouds	Domingo Martin y Peres.
Madrid, Royal Observatory	27.73	704.4	29.77	756.1	97.6	36.4	21	W	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.6	96.3	35.7	43	ENE	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.8	30.13	765.2	66.7	19.3	61	NE	10.5	4.7	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.8	30.02	762.5	81.0	27.2	78	E	6.3	2.8	.....	1c;ck	0	ESE	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.81	757.2	83.6	28.6	85	E	5.2	2.3	.....	.....	2s	.....	S	0.256	6.5	Clear	Federico Faura, S. J. Capt. C. Fujazon, R. N., Dir.
San Fernando, Naval Obs'y	29.88	758.8	29.97	761.2	80.4	26.9	64	WNW	10.3	4.6	.....	0	0	.....	.....	0	0	.....	
San Juan de Porto Rico, W.I	29.97	761.2	30.06	763.5	84.9	29.4	74	E	11.6	5.20	.....	6ck	3k	E	E	0.039	1.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 *a. m., and for San Fernando* at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.4	29.86	758.4	67.6	19.8	.....	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Umea	29.80	756.9	29.85	758.2	67.6	19.8	49	ENE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	64.4	18.0	76	NE	.....	.....	4	.....	6	.....	.....	0	0	.....	
Stockholm	29.54	750.2	29.71	754.7	70.5	21.4	51	ENE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.62	752.4	29.68	753.9	73.0	22.8	46	SSE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.61	752.0	29.69	754.2	72.7	22.6	63	ESE	5.1	2.3	.....	.....	8	.....	E	0.003	0.08	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.47	723.0	29.80	758.4	65.8	18.8	47	WSW	.....	.....	3	.....	5	.....	.....	0.083	2.1	Cloudy	The Observatory.
Zurich	28.15	715.1	29.76	755.8	64.8	18.2	63	W	.....	.....	4	.....	4	.....	.....	0	0	Fair.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.7 mm.; Thermometer,—3.9 Cent.; Relative Humidity, —5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.7	79.3	26.3	58	NNE	12	5.5	.....	.....	3	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.2	89.4	31.9	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.64	752.8	29.76	755.8	87.3	30.7	64	W	.....	.....	1	.....	4s	.....	SE	0	0	D. clouds....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.07	763.8	30.13	765.3	59	15.0	85	SW	7	3.1	.....	.....	10s	.....	SW	0.06	1.5	Cloudy.	G. A. Bath.
Charlottetown, P. E. Island	30.15	765.8	30.20	767.1	63	17.2	79	SW	5	2.2	.....	1cs	1s	.....	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.97	761.2	72.0	22.2	61	W	.....	.....	4	0	5s	.....	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.90	759.4	30.07	763.8	55.5	13.1	97	W	.....	.....	1	.....	10s	.....	.....	0	0	Gloomy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.93	760.2	29.95	760.7	57	13.9	68	S	25	11.2	.....	.....	10n	.....	S	Inap.	Inap.	Light rain....	J. McWilliams.
Fredericton, N. B	30.11	764.8	30.17	766.3	61.0	16.1	83	S	6	2.7	.....	.....	10s	.....	.....	0.04	1.0	Overcast.....	Prof. Harrison.
*Fort Garry, Manitoba	29.26	743.2	30.07	763.8	57	13.9	81	E	8	3.6	.....	5k	5ks	W	W	0	0	Cloudy.....	James Stewart.
Granton, Ontario	28.98	736.1	30.04	763.0	69	20.6	90	SW	.....	.....	1	2cs	0	.....	.....	0	0	Fair	James Grant.
*Halifax, N. S	30.18	766.6	30.29	769.4	66	18.9	75	NW	4	1.8	.....	5c	0	NW	.....	0	0	Fair.....	F. Allison, M. A.
Hamilton, Ontario	29.70	754.4	30.06	763.5	68.5	20.3	84	W	.....	.....	1	3c	0	W	.....	0	0	Fair.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.74	755.4	30.06	763.5	68	20.0	79	S	8	3.6	.....	8c	0	Calm	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.21	767.3	30.25	768.3	59.4	15.2	79	SW	2	0.9	.....	2c	0	SW	.....	0	0	Clear.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.82	757.4	30.01	762.2	68	20.0	69	S	9	4.0	.....	8ck	0	N	.....	Inap.	Inap.	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.32	744.7	29.98	761.5	72	22.2	76	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.31	744.5	30.03	762.7	68.7	20.4	79	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.39	746.5	30.06	763.5	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	30.22	767.6	30.27	768.8	60	15.6	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.07	763.8	62	16.7	94	Calm	0	0	.....	Haze	0	.....	.....	0	0	Hazy.....	M. Payne.
*Quebec, Quebec	29.71	754.6	30.02	762.5	63	17.2	83	Calm	.....	.....	0	.....	10n	.....	Calm	Inap.	Inap.	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.52	749.8	29.97	761.2	64	17.8	83	SE	3	1.3	.....	5ck	0	NW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.14	765.5	30.19	766.8	61	16.1	82	SW	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	30.08	764.0	30.24	768.1	57	13.9	87	S	11	4.9	.....	.....	10ks	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	29.99	761.7	70	21.1	75	S	6	2.7	.....	.....	10n	.....	SW	0	0	Threatening	K. Stewart.
Stayner, Ontario	29.23	742.4	29.97	761.2	74	23.3	63	NW	3	1.3	.....	10k	0	NW	.....	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.80	731.5	30.04	763.0	67.2	19.6	82	SW	10	4.5	.....	8cs	4s	.....	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.22	767.6	30.26	768.6	62	16.7	61	SE	3	1.3	.....	0	2s	.....	.....	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.66	753.4	30.03	762.7	67	19.4	77	W	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.21	767.3	30.30	769.6	69.5	20.8	63	W	4	1.8	.....	.....	10ks	.....	.....	0	0	Overcast.....	Prof. John E. Oram.
Woodstock	28.99	736.3	30.01	762.2	72.0	22.2	73	SW	10	4.5	.....	8ck	0	.....	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.94	760.5	30.19	766.8	52.0	11.1	83	NE	.....	.....	.....	.....	10	.....	.....	0.01	0.3	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**
Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to *sea-level. Inches.	Barometer. Reduced to *sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.99	761.7	30.22	767.6	63	17.2	72	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Alpena, Michigan	29.34	745.2	29.96	761.0	71	21.7	53	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	43	6.1	100	Calm	0	0	.....	.....	10ks;fg	.....	Calm	0	0	Cloudy.....	
Atlanta, Georgia	29.03	737.3	30.15	765.8	69	20.6	75	E	10	4.5	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Atlantic City, New Jersey	30.29	769.4	30.30	769.6	72	22.2	71	SW	1	0.4	.....	5c	0	SW	.....	0	0	Fair.....	
Augusta, Georgia	30.00	762.0	30.20	767.1	75	23.9	68	NE	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear.....	
Baltimore, Maryland	30.24	768.1	30.29	769.4	71	21.7	62	S	8	3.6	.....	5c	Sm'e	W	Calm	0	0	Fair.....	
Barnegat, New Jersey	30.27	768.8	30.29	769.4	74	23.3	55	SE	7	3.1	.....	2ck	0	Calm	.....	0	0	Clear.....	
Bismarck, Dakota	28.14	714.7	29.99	761.7	62	16.7	94	E	14	6.3	.....	0	5s	.....	E	0.34	8.6	Fair.....	
Boerne, Texas	28.57	725.7	29.83	757.7	77	25.0	57	S	8	3.6	.....	5k	0	S	.....	0	0	Fair.....	
Boise City, Idaho	27.09	688.1	30.06	763.3	59	15.0	54	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Boston, Massachusetts	30.11	764.8	30.26	768.6	67	19.4	64	SW	14	6.3	.....	3ck	k	SW; Calm	.....	0	0	Fair.....	
Brackettville, Texas	28.87	733.3	29.85	758.2	77	25.0	69	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Breckenridge, Minnesota	28.53	734.8	29.87	758.7	69	20.6	85	E	10	4.5	.....	.....	10ks	.....	SE	0	0	Cloudy.....	
Brownsville, Texas	29.92	760.0	29.96	761.0	79	26.1	87	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Buffalo, New York	29.38	746.2	30.05	763.3	73	22.8	63	SW	7	3.1	.....	5cs	0	W	.....	0	0	Fair.....	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	24	Calm	.....	.....	0	2k	0	Calm	.....	0	0	Clear.....	
Burlington, Vermont	29.82	757.4	30.10	764.5	67	19.4	55	S	19	8.5	.....	2ck	2ks	W	SW	Inap.	Inap.	Fair.....	
Cairo, Illinois	29.72	754.9	30.10	764.5	78	25.6	69	SE	6	2.7	.....	5ck	5s	Calm	SE	0	0	Cloudy.....	
Campo, California	27.40	696.0	29.97	761.2	38	3.3	72	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.22	767.6	30.22	767.6	77	25.0	65	E	12	5.4	.....	Haze	5s	.....	E	Inap.	Inap.	Fair.....	
Cape Henry, Virginia	30.25	768.3	30.27	768.8	74	23.3	72	NE	7	3.1	.....	0	8ks	.....	NE	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	69	20.6	95	NE	24	10.7	.....	.....	10n	.....	Calm	0.10	2.5	Light rain..	
Cape May, New Jersey	30.26	768.6	30.29	769.4	69	20.6	75	SE	6	2.7	.....	5c	0	N	.....	0	0	Fair.....	
Castroville, Texas	29.21	741.9	29.88	758.9	79	26.1	78	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair.....	
Charleston, South Carolina	30.09	764.3	30.15	765.8	75	23.9	77	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Charlotte, North Carolina	29.40	746.7	30.20	767.1	70	21.1	70	NE	4	1.8	.....	5ck	0	E	.....	0	0	Fair.....	
Chattanooga, Tennessee	29.42	747.3	30.20	767.1	72	22.2	67	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	59	15.0	82	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.34	745.2	30.00	762.0	75	23.9	60	SE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair.....	
Cincinnati, Ohio	29.49	749.0	30.11	764.8	77	25.0	69	SE	2	0.9	.....	7k	0	W	.....	0	0	Fair.....	
Cleveland, Ohio	29.38	746.2	30.08	764.0	70	21.1	75	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Coleman City, Texas	28.21	716.5	29.80	756.9	78	25.6	61	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Columbus, Ohio	29.28	743.7	30.07	763.8	76	24.4	56	S	2	0.9	.....	2k	Sm'e	SW	Calm	0	0	Fair.....	
Concho, Texas	28.13	714.5	29.72	754.9	80	26.7	55	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.55	750.6	30.00	762.0	81	27.2	70	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear.....	
Davenport, Iowa	29.36	745.7	29.96	761.0	74	23.3	68	E	2	0.9	.....	8cs	0	Calm	.....	0	0	Fair.....	
Deadwood, Dakota	25.39	644.9	.....	.....	65	18.3	68	E	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Decatur, Texas	28.75	730.2	29.84	757.9	83	28.3	87	SW	12	5.4	.....	8c	0	Calm	.....	0	0	Cloudy.....	
Denison, Texas	29.20	741.7	29.94	760.5	82	27.8	71	SE	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair.....	
Denver, Colorado	24.87	631.7	30.09	764.3	64	17.8	83	N	2	0.9	.....	8ck	0	SW	.....	0	0	Fair.....	
Des Moines, Iowa	29.08	738.6	29.91	759.7	74	23.3	90	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy.....	
Detroit, Michigan	29.41	747.0	30.05	763.3	70	21.1	66	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Dodge City, Kansas	27.39	695.7	29.54	750.3	76	24.4	73	S	4	1.8	.....	0	0	.....	.....	0.16	4.1	Clear.....	
Dubuque, Iowa	29.32	744.7	29.98	761.5	73	22.8	67	S	3	1.3	.....	8c	Haze	S	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.64	752.8	30.00	762.0	67	19.4	76	NE	16	7.2	.....	5cs	0	NE	.....	0	0	Fair.....	
Eagle Pass, Texas	29.20	741.7	29.90	759.4	81	27.2	67	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Eastport, Maine	30.13	765.3	30.19	766.8	61	16.1	77	SW	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	83	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
El Paso, Texas	26.24	666.5	.....	.....	69	20.6	90	NW	4	1.8	.....	0	0	.....	.....	0.52	13.2	Clear.....	
Erie, Pennsylvania	29.37	746.0	30.05	763.3	75	23.9	64	S	6	2.7	.....	1c	0	Calm	.....	0	0	Clear.....	
Escanaba, Michigan	29.34	745.2	29.97	761.2	68	20.0	84	N	5	2.2	.....	.....	10ks	.....	NW	0.19	4.8	Cloudy.....	
Florence, Arizona	28.38	720.8	29.98	761.5	85	29.4	47	SE	2	0.9	.....	5c	0	Calm	.....	0	0	Fair.....	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.87	707.9	.....	.....	62	16.7	100	SE	5	2.2	.....	5cs	0	SW	.....	0.63	16.0	Fair.....	
Fort Davis, Texas	25.27	641.8	30.23	767.8	70	21.1	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter.	29.45	748.0	29.96	761.0	84	28.9	71	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	71	21.7	49	SE	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Fort Griffin, Texas	28.64	727.4	29.84	757.9	78	25.6	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Keogh, Montana	27.43	696.7	.....	.....	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort McKavett, Texas	27.78	705.6	29.62	752.3	75	23.9	72	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.80	756.9	81	27.2	63	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Stevenson, Dakota	28.10	713.7	.....	.....	64	17.8	94	E	4	1.8	.....	1c	0	E	.....	0.91	23.1	Fair.....	
Fort Verde, Arizona	.....	.....	.....	.....	66	18.9	41	NW	.....	.....	1	2c	2k	W	W	0	0	Fair.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.29	718.6	29.77	756.1	80	26.7	66	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair.....	
Galveston, Texas	29.98	761.5	30.02	762.5	82	27.8	87	SW	3	1.3	.....	5ck	2s	Calm	Calm	0	0	Fair.....	
Graham, Texas	28.90	734.0	29.90	759.4	81	27.2	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Grand Haven, Michigan	29.40	746.7	30.02	762.5	77	25.0	61	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.00	736.6	29.89	759.2	78	25.6	69	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Indianapolis, Indiana	29.30	744.2	30.04	763.0	78	25.6	65	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear.....	
Indianola, Texas	30.00	762.0	30.03	762.7	83	28.3	79	S	8	3.6	.....	5c	1ks	Calm	S	0	0	Fair.....	
Jacksboro, Texas	28.86	733.0	29.91	759.7	83	28.3	50	SE	6	2.7	.....	2c	0	S	.....	0	0	Clear.....	
Jacksonville, Florida	30.06	763.5	30.09	764.3	81	27.2	70	NE	10	4.5	.....	5c	0	NE	.....	0.05	1.3	Fair.....	
Keokuk, Iowa	29.33	745.0	29.91	759.7	79	26.1	74	S	3	1.3	.....	2cs	2s	W	Calm	0	0	Fair.....	
Key West, Florida	30.01	762.2	30.04	763.0	82	27.8	71	SE	2	0.9	.....	5k	0	Calm	.....	0.48	12.2	Fair.....	
Kittyhawk, North Carolina	30.16	766.1	30.19	766.8	74	23.3	81	NE	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Knoxville, Tennessee	29.23	742.4	30.21	767.3	70.5	21.4	66	NE	1	0.4	.....	2k	5ks	NE	NE	0	0	Fair.....	
La Crosse, Wisconsin	29.25	742.9	29.94	760.5	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	66	18.9	89	Calm	0	0	.....	1k	2s	SW	Calm	0.24	6.1	Clear.....	
Laredo, Texas	29.58	751.3	29.90	759.4	84	28.9	50	SE	4	1.8	.....	5k	0	W	.....	0	0	Fair.....	
Leavenworth, Kansas	29.09	738.9	29.89	759.2	77	25.0	86	E	4	1.8	.....	.....	10s	.....	.....	0.32	8.1	Cloudy.....	
Little Rock, Arkansas	29.72	754.9	30.07	763.8	78	25.6	95	SE	4	1.8	.....	2c	8s	Calm	SE	0.28	7.1	Cloudy.....	
Los Angeles, California	29.52	749.8	29.86	758.4	56.5	13.6	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.57	751.1	30.10	764.5	80	26.7	51	S	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Lynchburg, Virginia	29.61	752.1	30.27	768.8	72	22.2	58	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Madison, Wisconsin	29.03	737.3	29.96	761.0	72	22.2	71	S	6	2.7	.....	2c	0	W	.....	0	0	Fair.....	
Marquette, Michigan	29.33	745.0	30.02	762.5	59	15.0	76	N	8	3.6	.....	5k	0	N	.....	0.06	1.5	Fair.....	
Mason, Texas	28.39	721.1	30.06	763.5	77	25.0	69	W	1	0.4	.....	1cs	0	E	.....	0	0	Clear.....	
Memphis, Tennessee	29.76	755.9	30.08	764.0	78	25.6	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Milwaukee, Wisconsin	29.29	744.0	29.98	761.5	76	24.4	56	SW	6	2.7	.....	5c	0	NW	.....	0	0	Fair.....	
Mobile, Alabama	29.99	761.7	30.03	762.7	78	25.6	82	NE	6	2.7	.....	2c	5s	Calm	SE	1.49	37.8	Fair.....	
Montgomery, Alabama	29.89	759.2	30.11	764.8	78	25.6	76	E	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.10	741.4	30.14	765.5	75	23.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	24.02	610.1	30.38	771.6	46	7.8	100	NW	37	16.5	.....	.....	Fog	.....	NW	0	0	Foggy.....	
Nashville, Tennessee.....	29.63	752.6	30.14	765.5	78	25.6	62	E	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair.....	
New Haven, Connecticut....	30.17	766.3	30.26	769.1	69	20.6	76	SW	4	1.8	.....	5ck	0	W	.....	0	0	Fair.....	
New London, Connecticut...	30.24	768.1	30.29	769.4	71	21.7	62	S	8	3.6	.....	1cs	0	NW	.....	0	0	Clear.....	
New Orleans, Louisiana.....	29.95	760.7	30.01	762.2	82	27.8	79	NE	8	3.6	.....	2k	2ks	NE	NE	1.38	35.1	Fair.....	
Newport, Rhode Island.....	30.20	768.9	30.31	769.9	68	20.0	65	S	4	1.8	.....	1ck	0	Calm	.....	0	0	Clear.....	
New York, New York.....	30.11	764.8	30.29	769.4	66	18.9	73	SW	7	3.1	.....	5cs	Haze	Calm	Calm	0	0	Fair.....	
Norfolk, Virginia.....	30.21	767.3	30.26	768.6	74	23.3	72	S	6	2.7	.....	1k	0	E	.....	0	0	Clear.....	
North Platte, Nebraska	27.05	687.1	29.50	749.3	67	19.4	93	SE	12	5.4	.....	.....	10s	.....	Calm	1.57	39.9	Cloudy.....	
Olympia, Washington Ter..	29.97	761.2	30.00	762.0	50.0	10.0	93	N	2	0.9	.....	8ck	2s	NE	Calm	0	0	Cloudy.....	
Omaha, Nebraska.....	28.83	732.3	29.87	758.7	75	23.9	90	SW	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Light rain...	
Oswego, New York.....	29.78	756.4	30.10	764.5	71	21.7	68	S	10	4.5	.....	8c	0	NW	.....	0	0	Fair.....	
Pembina, Dakota.....	29.14	740.1	29.94	760.5	58	14.4	94	E	2	0.9	.....	.....	10s	.....	Calm	.0	0	Cloudy.....	
Philadelphia, Pa.....	30.24	768.1	30.29	769.4	68	20.0	74	S	5	2.2	.....	1c	Haze	W	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.64	727.4	30.34	770.6	78	25.6	50	E	2	0.9	.....	0	2s	.....	Calm	0	0	Fair.....	
Pike's Peak, Colorado.....	18.10	459.7	30.31	769.9	39	3.9	64	NE	8	3.6	.....	.....	10ks	.....	SW	0.33	8.4	Cloudy.....	
Pilot Point, Texas.....	29.06	738.1	29.86	758.4	86	30.0	58	SE	8	3.6	.....	5k	5s	S	SE	0	0	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	57	13.9	20	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.33	745.0	30.11	764.8	72	22.2	58	SW	8	3.6	.....	2k	0	W	.....	0	0	Fair.....	
Port Huron, Michigan.....	29.40	746.7	30.04	763.0	68	20.0	74	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine.....	30.16	766.1	30.21	767.3	65	18.3	68	SW	8	3.6	.....	5k	0	Calm	.....	0	0	Fair.....	
Portland, Oregon.....	29.95	760.7	30.03	762.7	58.5	14.7	82	N	3	1.3	.....	.....	10ks	.....	N	0	0	Cloudy.....	
Prescott, Arizona.....	24.78	629.4	30.14	765.5	68	14.4	48	SW	.....	.....	1	2c	0	Calm	.....	0	0	Fair.....	
Punta Rassa, Florida.....	30.01	762.2	30.03	762.7	81	27.2	74	NE	4	1.8	.....	2k	0	S	.....	1.08	27.4	Fair.....	
Red Bluff, California.....	29.54	750.3	29.89	759.2	67	19.4	60	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.78	756.4	29.99	761.7	79	26.1	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.48	748.8	30.08	764.0	71	21.7	62	SW	11	4.9	.....	5k	0	W	.....	0	0	Fair.....	
*Roseburg, Oregon.....	29.46	748.3	30.02	762.5	56	13.3	87	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California.....	29.81	757.2	29.89	759.2	67	19.9	75	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.45	748.0	30.00	762.0	76	24.4	86	S	6	2.7	.....	5k	2ks	SW	Calm	Inap.	Inap.	Fair.....	
St. Marks, Florida.....	30.02	762.5	30.04	763.0	77	25.0	80	E	13	5.8	.....	0	4s	.....	E	2.30	58.4	Fair.....	
St. Paul, Minnesota.....	29.10	739.1	29.88	758.9	73	22.8	85	E	2	0.9	.....	8c	0	W	.....	0	0	Fair.....	
Salt Lake City, Utah.....	25.61	650.5	29.94	760.5	69	20.6	16	SE	4	1.8	.....	1c	0	Calm	.....	0	0	Clear.....	
San Antonio, Texas.....	29.31	744.5	29.86	758.4	80	26.7	78	Calm	0	0	.....	8cs	0	SE	.....	0	0	Cloudy.....	
San Diego, California.....	29.82	757.4	29.89	759.2	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.44	747.8	30.08	764.0	72	22.2	67	S	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sandy Hook, New Jersey....	30.25	768.3	30.28	769.1	71	21.7	58	SW	6	2.7	.....	1c	0	W	.....	0	0	Clear.....	
San Francisco, California..	29.87	758.7	29.94	760.5	54	12.2	87	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.43	595.1	29.97	761.2	59	15.0	76	Calm	0	0	.....	1ck	0	Calm	.....	0.25	6.3	Clear.....	
Savannah, Georgia.....	30.06	763.5	30.15	765.8	78	25.6	73	NE	6	2.7	.....	0	0	.....	.....	0.32	8.1	Clear.....	
Shreveport, Louisiana.....	29.81	757.2	30.02	762.5	79	26.1	87	E	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	75	23.9	90	NE	8	3.6	.....	0	8ks	.....	E	0	0	Cloudy.....	
Socorro, New Mexico.....	25.40	645.7	29.53	750.0	68	20.0	74	Calm	0	0	.....	0	8s	.....	Calm	0	0	Cloudy.....	
Springfield, Ill	29.38	746.2	30.02	762.5	79	26.1	74	SE	3	1.3	.....	5cs	2ks	SW	S	0	0	Fair.....	
Springfield, Massachusetts	30.13	765.3	30.26	768.6	67	19.4	79	S	6	2.7	.....	2cc	2ks	N	SW	0	0	Fair.....	
Stockton, Texas.....	26.97	685.0	29.97	761.2	76	24.4	2	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.27	768.8	30.32	770.1	62	16.7	72	S	11	4.9	.....	2ck	2s	SW	S	0	0	Fair.....	
Toledo, Ohio, ...	29.41	747.0	30.06	763.5	73	22.8	67	W	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.45	697.2	30.00	762.0	83	28.3	45	SE	5	2.2	.....	0	5s	.....	SE	0	0	Fair.....	
Umatilla, Oregon.....	29.58	751.3	30.06	763.5	61.0	16.1	77	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.07	738.4	29.84	757.9	79	26.1	78	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.81	757.2	30.06	763.5	78	25.6	78	SE	5	2.2	.....	Haze	0	Calm	.....	0.22	5.6	Clear.....	
Virginia City, Montana.....	24.35	618.5	29.83	757.7	54	12.2	55	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.49	749.0	29.84	757.9	67	19.4	50	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	30.17	766.3	30.28	769.1	71	21.7	66	SW	4	1.8	.....	2cs	Haze	W	.....	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	69	20.6	35	S	.....	.....	2	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	30.12	765.0	30.19	766.8	73	22.8	76	NE	7	3.1	.....	5k	0	NE	.....	0	0	Fair.....	
Winnemucca, Nevada.....	25.99	660.2	29.96	761.0	51	10.6	34	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.27	768.8	30.31	769.9	67	19.4	74	S	12	5.4	.....	0	5ks	.....	SW	0	0	Fair.....	
Yankton, Dakota.....	28.68	728.5	29.90	759.4	72	22.2	90	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Yuma, Arizona.....	29.69	754.8	29.76	755.9	76	24.4	41	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.25	641.3	.....	.....	65.2	18.4	87	Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.....	29.91	759.7	29.99	761.7	81	27.2	.....	NE	.....	.....	.....	0	10n	.....	.....	0.03	0.8	.....	
Paramaribo, D. Guiana, S.A	30.03	762.7	30.03	762.7	82	27.8	79	E	.....	.....	.....	.....	.....	.....	.....	0.33	8.4	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	3c	5k	E	0	0	Fair.....	O. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,858 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.566 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

1879—July 21.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡			84	28.9	75	NE	10	4.5			8		NE	0.10	2.5			Threatening	
Navy Yard, Portsmouth, N. H.																					
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡			79.5	26.4	89	Calm			0		0			0	0			Clear	
Adams, San Francisco, Cal.	29.96‡	761.0‡			55	12.8	100	SW			3		2		SW					Fair	
Alliance, Flushing, Netherlands	29.33‡	745.0‡			57	13.9	94	W			5–7		10		W			Mod'ate	W	Drizzling	
Ashuelot, Yokohama, Japan	29.93‡	760.2‡			79	26.1	66	SSW			1							Smooth		Fair	
Colorado, New York, N. Y.	30.21‡	767.3‡			67	19.4	69	SSW	10	4.5			5			0	0			Hazy	
Constellation, Portland, Maine	30.12‡	766.8‡			64	17.8	73	SSW			2		5*		SSW	0	0			Clear?	
Constitution, N. 39° 51′, W. 75° 17′	30.31‡	769.9‡			69	20.6	70	S			2		3		SSW					Clear	
Enterprise, Cronstadt, Russia	29.66‡	753.4‡			61	16.1	94	WNW			2		10		WNW	Blank	Blank			Cloudy	
Essex, Montivideo, Uruguay	30.06‡	764.0‡			53	11.7	93	NW			3		2		Calm			Smooth		Fair	
Franklin, Norfolk, Va.	30.23‡	767.8‡			74	23.3	72	ENE	8.4	3.8			5							Fair	
Hartford, Montevideo, Uruguay	30.11‡	764.8‡			48	8.9	49	NNW			3		5		N	0	0			Fair	
Independence, Mar I'd. Navy Yard, Cal.	29.93‡	760.2‡			61	16.1	94	SSW	5	2.2			2?		SSW					Cloudy?	
Kearsarge, St. Johns, New Foundland	30.14‡	765.5‡			52	11.1	86	W			1		2							Fair	
Michigan, Erie, Pa.	29.97‡	761.2‡			71	21.7	75	SSE			2		0							Clear	
Monocacy, Shanghai, China	29.77‡	756.1‡			83	28.3	96	SSE			1		2		SSE					Clear	
Monongahela, Yokohama, Japan	29.99‡	761.7‡			82	27.8	83	SSW			0–1		cs			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.14‡	765.5‡			79	26.1	74	NE	22	9.8			5		NE	0	0			Fair	
Onward, Callao, Peru	30.00‡	762.0‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.76‡	755.9‡			82	27.8	87	SSE			1		2							Fair	
Passaic, Washington, D. C.					71	21.7	85	W			2		2							Clear	
Pensacola, Callao, Peru	30.02‡	762.5‡			61	16.1	88	Calm	0	0			10					Smooth		Overcast	
Portsmouth, Boston, Mass.	30.28‡	769.1‡			64	17.8	73	SW			2		2		Calm	0	0			Clear	
Powhatan, N. 39° 17′, W. 75° 22′	30.28‡	769.1‡			69	20.6	80	W			2		8			0	0	Smooth		Fair	
Quinnebaug, Constantinople, Turkey	29.82‡	757.4‡			77	25.0	69	ENE			3		2		NE					Fair	
Ranger, Amoy, China	29.85‡	758.2‡			85	29.4	83	SSE			2		2					Smooth		D. clouds	
Richmond, Yokohama, Japan	29.92‡	760.0‡			82	27.8	79	WSW			1		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.97‡	761.2‡			77	25.0	95	SE			1		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.29‡	769.4‡			70	21.1	75	SW			1		5		NW	0	0			Fair	
Saratoga, New London, Conn.	30.30‡	769.6‡			68	20.0	95	SW			2		5		Calm	0	0			D. clouds	
St. Louis, League Island, Pa	30.23‡	767.8‡			67	19.4	79	SW	2	0.9			2		Calm	0	0			Fair	
Trenton, Flushing, Netherlands	29.31‡	744.5‡			57	13.9	94	W			5–7		10		SSW	0.06	1.5	Mod'ate	N;W	Rainy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.93‡	760.2‡			59	15.0	100	SSW			4		3		NE	0	0	Smooth		D. clouds	
Vandalia, New Bedford, Mass.	30.30‡	769.6‡			67	19.4	84	SW			4		2		SW	0	0			Clear	
Wabash, Boston, Mass.	30.22‡	767.6‡			61	16.1	77	SW	7	3.1			10			0	0			Overcast	
Wyoming, N. 40° 38′, E. 18° 16′	29.82‡	757.4‡			77	25.0	69	ESE			2-3		2		SE			Smooth	SE	Fair	
Wachusett, New Orleans, La	30.01‡	762.2‡			80	26.7	91	NE			2		5		NE					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 21° 34', W. 106° 05'..†		29.92‡	760.0‡	77	25.0	100	Var.			1–2		10		NW	2.01 in. or 51.1mm		S	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 5° 59', W. 167° 10'..		29.87‡	758.7‡				ENE			5				W		Mod'ate	E	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 41° 11', W. 160° 30'.. †		29.92‡	760.0‡	63	17.2	83	W			4		5k			0	Mod'ate	W	Misty	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson. N. 45° 51', E. 169° 33'....†		29.88‡	758.9‡	52	11.1	86	E			3		mist;fg.		SE	Light	Light	ESE	Fog & mist.	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer,																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 52', W. 18° 13'		30.28‡	769.1‡				NNW			2		5		WNW		3	W	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 43′, W. 36° 50′		29.95‡	760.7‡	67	19.4	89	W			5		3		W	Heavy	Light	W	Cloudy?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 40° 50′, W. 69° 16′		30.31‡	769.9‡				Calm	0	0							Smooth		Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N 34° 26′, W. 76° 47′		30.12‡	765.0‡	77	25.0	82	E	8	3.6			10k		E	0	Rough	NE	Squally	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N 32° 08′, W. 71° 03′ †		30.18‡	766.6‡				W			1		2		W	Blank	Mod'ate	N	Squally	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

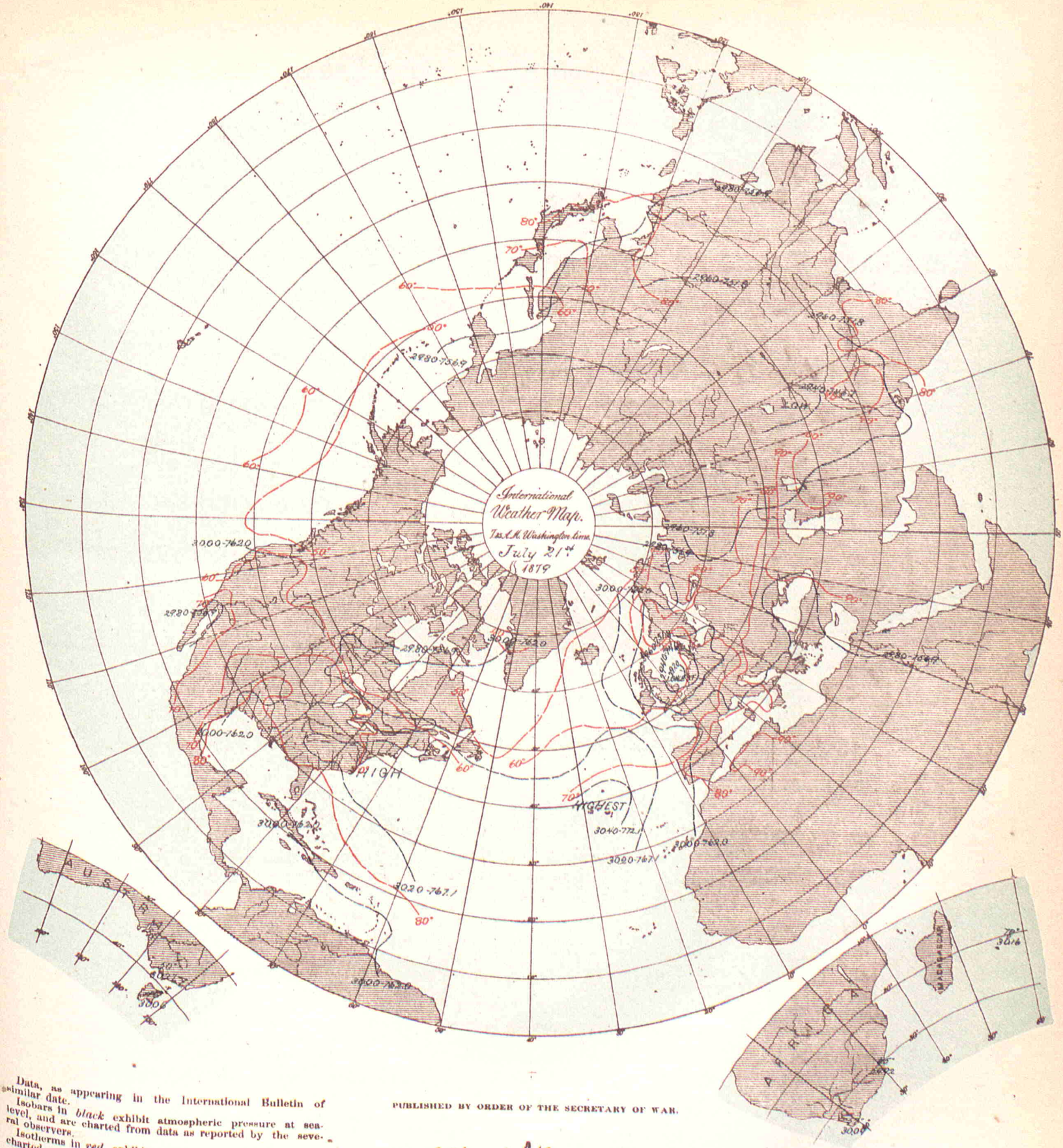
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.8	68.2	20 1	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.90	759.5	82.4	28.0	73	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.93	760.1	77.0	25.0	76	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Tourilliere.
La Calle	.....	.....	29.97	761.2	81.1	27.3	77	NNE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.92	759.9	94.1	34.5	12	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.95	760.7	96.8	36.0	22	SW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.85	758.3	84.9	29.4	38	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.87	758.6	99 0	37.2	31	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.87	758.8	102.7	39.3	28	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cracow, I. R. Observatory	29.18	741.2	29.72	754.8	64.9	18.3	69	SE	.....	.....	2	.....	10	.....	.....	0.012	0.3	Raining	Prof. Ivan Stozir.
Eperies	28.92	734.5	29.66	753 3	65.5	18.6	81	SSE	2.5	1.1	.....	.....	10	.....	.....	0.134	3.4	Raining	Prof. Dr. Karlinski, Dir.
Gratz	28.50	731.5	29.64	752.9	67.5	19?7	85	Calm	.....	.....	0	.....	10ns	.....	.....	0	0	.....	Julius Mikolik.
Hermannstadt	28.51	724.1	29.73	755.2	61.5	16 4	77	WNW	.....	.....	3	.....	10	.....	.....	1.496	38.0	.....	Andreas Rospini.
Kremsmünster	28.30	718.7	29.61	752.0	86.0	30.0	44	SE	.....	.....	4	.....	0	.....	.....	0.315	8.0	.....	Prof. A. Gottschling.
Lemberg	28.39	721.2	29.70	754.4	60.8	16.0	74	WNW	.....	.....	1	.....	8	.....	.....	0.787	20.0	.....	Prof. C. Wagner.
Pola	28.67	728.3	29.60	751.9	76.1	24.5	66	S	.....	.....	2	.....	1	.....	.....	0.362	9.2	.....	Dr. T Stanecki.
Szathmar	28.55	750.0	29.66	753 3	78.3	25.7	46	WSW	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szegedin	29.19	741.5	29.63	752.6	78.1	25.6	70	SE	.....	.....	2	.....	10	.....	.....	0.693	17.6	Rainy	Julius Csics, S. J.
Trieste	29.44	747.8	29.71	754.7	61.3	16.3	96	Calm	.....	.....	0	.....	10	.....	.....	0.758	19.25	.....	Karl Stancel.
Vienna	29.56	750.8	29.66	753.4	76.3	24.6	53	W	.....	.....	1	.....	3	.....	.....	0.098	2.5	.....	P. Busin.
.....	29.00	736.7	29.73	755.1	66.9	19.4	50	W	.....	.....	3	.....	5	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Low'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.72	754.9	29.82	757.4	54.6	12.6	.....	NNW	23	10.3	.....	.....	9	.....	.....	0	0	Squally	W. Boswell.
Ardrossan	29.76	755 9	29.78	756.4	58	14.4	.....	NW	.....	.....	6	.....	7	.....	.....	.....	.....	Blue sky	Wm McNeil &G.Carrick
Armagh, Observatory	29.73	755.1	29.96	761.0	59.3	15.2	.....	NW	10	4.5	.....	.....	10	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.77	756.1	55.3	12.9	.....	NW	21	9.4	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.72	754.9	55.7	13.2	.....	N	30	13.4	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.35	745.5	29.75	755.6	55.5	13.1	.....	N	.....	.....	5	.....	10	.....	.....	0.26	6.6	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.96	761.0	83	28.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.53	750.0	29.62	752.3	55 0	12.8	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.64	752.8	58.0	14.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.50	749.3	29.62	752.3	59.0	15.0	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	J. Carmell, Sapper R. E.
Donaghadee	29.85	758.2	29.89	759.2	55	12.8	.....	N	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.58	751.3	29.61	752.1	58	14.4	.....	NNW	.....	.....	4	.....	9	.....	.....	.....	.....	Showery	J. Costello.
Falmouth, Observatory	29.72	754.9	29.94	760.5	60.0	15.6	.....	NW	.....	.....	5	.....	7	.....	.....	.....	.....	Gloomy	The Staff.
Fort Napier (Natal)	27.51	698.7	29.80	756 9	66.6	19.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	77	25.0	.....	Calm?	.....	.....	1?	.....	5	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.01	762.2	C2	16.7	.....	NNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.85	758.2	29.90	759 4	78.8	26.0	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.57	751.1	29.78	756.4	70.3	21.3	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.50	749.3	29.51	749.5	55	12.8	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.47	748.5	29.64	752.8	61.6	16.4	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.60	751.8	29.83	757.7	59.5	15.3	.....	NW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	Dr. S.E.Hoskins,F.R.S.
Helston	29.60	759.4	30.02	762.5	62	16.7	.....	NW	.....	.....	6	c	8k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.84	757.9	29.86	758.4	56	13.3	.....	NNW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.56	750.8	29.85	758.2	59.2	15.1	.....	NW	.....	.....	6	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.63	752.6	29.66	753.4	63.1	17.3	.....	NW	18	8.0	.....	.....	9	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.45	748.0	29.70	754.4	57.0	13.9	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	80	20.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.79	756.7	29.88	758 9	58	14.4	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.05	763.3	86.8	30.4	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.52	749.8	29.71	754.6	59.7	15.4	.....	NW	.....	.....	6	.....	10k	.....	NNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.21	741.9	29.73	755.1	54.5	12.5	.....	NNW	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.71	754.6	57	13.9	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	61.4	16.5	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.95	760.7	30.06	763.5	60	15.6	.....	NNW	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.73	755.1	29.89	759.2	60	15.6	.....	NW	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.87	758.7	53.8	12.1	.....	NW	23	10.3	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.67	753.6	29.73	755.1	57.2	30.7	.....	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Serg't W. H.Lyne.
Sheffield	29.47	748.5	29.74	755.4	55.9	13.3	.....	NNW	.....	.....	4	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.56	750.8	29.59	751.6	63.2	17.3	89	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.77	756.1	56.3	13.5	.....	WNW	8	3.6	.....	.....	10	.....	.....	.....	.....	Threatening	Rev. S. J. Perry.
Strathfield, Turgiss	29.47	748.5	29.68	753.9	60.9	16.1	.....	NW	.....	.....	2-3	.....	10	.....	.....	.....	.....	Raining	Rev .C.H.Griffith,F.M.S.
Truro, Royal Institution	29.95	760.7	29.96	761.0	64	17.8	.....	NW	.....	.....	9	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	30.08	764.0	30.10	764.5	59.2	15.1	.....	NNW	16	7.2	.....	.....	8	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	57.2	14.0	61	W	10.8	4.8	.....	10	10	.....	.....	0.090	2.29	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.98	761.5	48	6.1	80	NW	.....	.....	2	.....	0	.....	.....	0.05	1.3	Starlight	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.82	757.4	62.3	16.7	.....	NE	.....	.....	2	.....	6k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.5	71.9	22.2	58	ENE	8.5	3.8	.....	0	2	.....	ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.25	768.3	30.34	770.6	47.2	8.4	86	Calm	0	0	.....	.....	9	.....	.....	0.04	1.0	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Low'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 10′. E. 29° 05′	.....	.....	29.78‡	756.4‡	76	24.4	.....	ENE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. J. L. Wharton.
Agnes Wilson, N. 45° 30′, W. 29° 10′	.....	.....	30.20	767.1	68	20.0	.....	SSW	.....	.....	5	.....	8	SW	.....	2	SSW	Misty	Capt. H. W. Dyke.
Astarte, N. 57° 40′, W. 8°55′ *	.....	.....	30.00‡	762.0‡	53.7	12.1	.....	NNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Capt. Parson.
Barque Commewyne, N. 28° 30′, W. 58° 20′	.....	.....	30.21	767.3	82.3	27.9	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Capt. A. Buchan.
Theophane, S. 8° 05′, W. 14° 15′	.....	.....	30.04‡	763.0‡	75.6	24.2	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.21	665.7	29.93	760.2	65.3	18.5	90	SE	.....	.....	1	4ck	.....	.....	.....	0.3	8.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.68	751.4	29.63	752.6	65.3	18.5	70	SSE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	29.53	750.0	29.53	750.5	66.0	18.9	70	E	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	30.02	762.5	30.07	763.6	38.8	3.8	92	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Stykkisholm (Iceland)	30.08	764 0	30.12	765.1	53.6	12.0	98	NW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.96	761.0	30.00	761.9	52.2	11.2	81	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.48	748.7	29.59	751.5	68.4	20.2	62	E	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.27	743.4	29.32	757.4	69.7	15.4	93	W	.....	.....	1	.....	10	.....	.....	0.16	4.	Covered	Collignon, Director.
Amiens, Normal School	29.52	749.9	29.63	752.6	61.5	16.4	83	NW	.....	.....	7	.....	8	.....	ESE	0.693	17.6	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.34	745.2	29.59	751.6	55.6	13.1	90	NW	.....	.....	3	.....	10	.....	NW	0.55	14.	Raining	Klein, Commandant.
Avignon, Normal School	29.78	756.4	29.86	758.4	75.9	24.4	44	NNW	.....	.....	2	.....	2	.....	NNW	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.17	741.0	29.73	754.9	57 0	13 9	89	W	.....	.....	1	.....	10	.....	W	0.287	7.3	Raining	G. Saillard, Director.
Beauvais, Normal School	29.41	746.9	29.67	753.5	62.8	17.1	70	WNW	.....	.....	3	.....	8	.....	NW	0.167	4.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.95	735.4	29.84	757.8	55.6	13 1	86	S	.....	.....	3	.....	10	.....	SW	0.492	12.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.05	737.9	29.97	761.2	57.2	14	78	S	.....	.....	5	.....	n	S	SW	0.51	13.	.....	Marlot, Director.
Bourges, Normal School	29.26	743.2	29.80	757.0	58.6	14.8	91	W	.....	.....	5	.....	10n	W	W	0.098	2.5	Covered	M. Gence, Director.
Brest, Naval Observatory	29.69	754.2	29.93	760.3	60.8	16.0	76	NW	.....	.....	3	.....	10	.....	NW	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.56	750.9	29.97	761.1	70.9	21.6	45	W	.....	.....	3	.....	2	.....	W	0.04	1.	Slightly cl'dy	September, Dir.
Caen, Normal School	29.69	754.0	29.78	755.9	59.4	15.2	78	W	.....	.....	1	.....	.....	.....	SE	0	0	.....	Lair, Director.
Chartres, Normal School	29.18	741.2	29.78	755.2	60.8	16	85	NW	.....	.....	3	.....	10	.....	W	0.12	3.	Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.32	744.7	29.83	757.7	59.2	15.1	78	SW	.....	.....	2	.....	8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.54	724.8	29.86	758.5	62.6	17.0	52	SW	.....	.....	2	.....	8	.....	W	0	0	.....	Allnard, Director.
Commercy, Normal School	28.82	731.9	29.65	753.2	56.6	13.6	91	W	.....	.....	5	.....	10	.....	.....	0.516	13.1	Raining	Dr. Coulet, Director.
Commune de Grénsque*	28.75	730.2	29.89	759.2	68.7	20.4	31	NW	.....	.....	6	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.19	741.3	29.94	760.4	63.3	17.4	67	NW	.....	.....	1	.....	5kn	.....	N	0.063	1.6	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.79	756.6	30.00	762.0	60.4	15.8	85	W	.....	.....	3	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.53	750.1	29.84	757.8	58.1	14.8	80	WNW	.....	.....	3	.....	8	.....	WNW	0.020	0.5	Very cloudy	Poirrier, Director.
Lens-Le-Saulnier, N. School	28.96	735.6	29.86	758.5	54.7	12.6	86	SW	.....	.....	5	.....	10	.....	SW	0.21	5.50	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.88	759.0	29.98	761.5	62.6	17.0	72	NW	.....	.....	5	.....	.....	.....	NW	0.028	0.7	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.54	750.3	29.80	757.0	71.1	21.7	69	NW	.....	.....	7	.....	2	.....	NW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.74	729.9	29.77	756.1	57.7	14.3	82	SW	.....	.....	5	.....	10	.....	SW	0.24	6.	Covered	Barbier, Director
Mont-Louis	24.82	630.5	30.14	765.5	59 0	15.0	48	WNW	18.6	8.3	.....	.....	3	.....	W	0	0	.....	M Cave.
Nismes, Normal School	29.67	753.7	29.87	758.7	77.0	25	25	SW	.....	.....	5	.....	2	.....	SW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.41	747.1	62.8	17.1	75	WNW	.....	.....	3	.....	10	.....	WNW	0.063	1.6	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.54	572.4	.....	.....	40.6	4.8	.....	NW	.....	.....	3	.....	7	.....	.....	0	0	Fair	Gen'l de Nansouty.
Perpignan	29.84	758.0	29.95	760.6	70.0	21.1	33	NW	35.3	15.8	.....	.....	2	NW	.....	0	0	.....	Dr Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.03	635.8	.....	.....	40.3	4.6	100	W	.....	.....	7	.....	.....	.....	.....	0.228	5.8	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	67.1	19.5	65	W	.....	.....	3	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.62	752.4	29.71	754.6	57.2	14.0	92	W	.....	.....	2	.....	10	.....	NW	0.701	17.8	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.82	757.4	29.85	758.1	58.8	14.6	64	WNW	.....	.....	6	.....	8	NW	NW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.53	750.0	29.69	754.2	62.4	16.9	74	W	.....	.....	2-3	.....	10	.....	WNW	0.134	3.4	.....	E. Reaou, Director.
Tarbes, Normal School	29.01	736.8	30.05	763.3	72.8	22.4	62	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.35	745.4	30.07	763.8	63.7	17.6	63	WNW	.....	.....	5	.....	9	.....	WNW	0	0	.....	M. Julier Mercadier.
Tours	29.64	752.9	29.84	757.9	57.9	14.4	89	WNW	.....	.....	3	.....	10	.....	W	0	0	.....	Cousin-Marquet.
Versailles, Observatory	29.21	741.9	29.70	754.4	61.5	16.4	81	WNW	.....	.....	5	.....	10	.....	.....	0.262	6.66	Light rain	Dr. A. Berigay, Director
Villefranche-sur-Saone, N.S.	29.20	741.6	29.90	759.4	59.4	15.2	85	WSW	.....	.....	1	.....	10	.....	NE	0.110	2.8	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	9.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.26	743.8	29.90	759.4	59.2	15.1	93	NE	.....	.....	1	.....	10	.....	SW	0.075	1.90	Covered	Ch. André, Director.
Nice	.....	.....	29.69	754.0	75.6	24.2	63	ESE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.75	755.6	29.78	756.3	78.3	25.7	91	E	9.2	4 1	.....	.....	8	.....	.....	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet; commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.84	732.6	29.68	753.8	64.2	17.9	68	SW	.....	.....	4	.....	9	SW	.....	0.047	1.2	Raining	Prof. Dr. Hoh.
Berlin	29.47	748.6	29.64	752.8	70.0	21.1	56	S	.....	.....	4	.....	8	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.17	740.8	29.69	754.1	69.4	20.8	62	SW	.....	.....	1	.....	10	.....	.....	-0	0	.....	Royal Univers ty Ob's'y.
Carlsruhe	29.24	742.6	29.65	753.1	59.7	15.4	77	SW	.....	.....	6	.....	10	SW	.....	0.256	6.5	Raining	Albert Senz.
Cassel	29.24	742.6	29.58	751.4	62.6	17.0	77	SSE	.....	.....	4	.....	10	SW	.....	0.054	1.38	.....	Dr. H. Möhl.
Crefeld	28.98	736.2	29.45	748.0	60.8	16.0	79	S	.....	.....	5	.....	9	.....	.....	0.83	21.	.....	Director Lose.
Emden	29.29	744.0	29.44	747.8	60.8	16.0	84	SW	.....	.....	1	.....	5	.....	.....	0.142	3.6	.....	Prof. Dr. Prestel.
Frankfort on the Main	.....	.....	29.60	751.7	60.8	16.0	.....	SSW	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	Physical Society.
Freienwalde on the Oder	29.24	742.7	29.63	752.7	68.2	20.1	55	SSE	.....	.....	4	.....	8ks	SE	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	29.60	751.7	29.75	755.7	60.8	16.0	64	WSW	.....	.....	6	.....	10	W	.....	0.067	1.7	.....	M. Wilhelm.
Hamburg	28.35	720.0	29.53	750.1	64.0	17.8	73	SSE	.....	.....	4	.....	7k	.....	.....	0.008	0.2	Showery.....	Captain F. Hegemann.
Kiel	29.47	748.4	29.54	750.4	63.3	17.4	81	SE	.....	.....	4	.....	10	.....	.....	0.017	0.43	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.53	750.0	29.70	754.3	64.2	17.9	93	E	.....	.....	2	.....	8	.....	.....	0.283	7.2	.....	Prof. E. Luther.
Köslin	29.62	752.3	29.63	752.7	70.0	21.1	.....	Calm	.....	.....	0	.....	3	.....	.....	0.126	3.2	.....	H. Müller.
Leipsic Observatory	.....	.....	29.63	752.5	69.1	20.6	54	SSW	.....	.....	3	.....	7	SW	.....	0.012	0.3	.....	Prof. Brahms, Privy Counselor.
Memel	29.22	742.3	29.70	754.4	68.7	20.4	79	NW	.....	.....	1	.....	10s;n	.....	.....	...	...	.....	Skalweit.
Munich (München)	29 65	753.2	29.78	756.4	64.2	17.9	43	W	.....	.....	6	.....	9	SW	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	27.93	709.5	29.71	754.7	64.0	17.8	84	NNE	.....	.....	2	.....	10	.....	.....	0.028	0.7	.....	A. Lothes.
Posen	29.70	754.3	29.71	754.7	64.0	17.8	84	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.44	747.7	29.71	754.7	68.0	20.0	63	S	.....	.....	3	.....	10	WSW	.....	0.030	0.77	Raining	Imp. University Observatory.
Stuttgart	29.17	741.0	29.71	754.7	58.3	14.6	83	W	.....	.....	6	.....	10	.....	.....	0.161	4.1	Raining.....	Prof. Dr. Schoder.
Treves (Trier)	28.74	730.0	29.66	753.3	60.3	15.7	64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.21	716.5	29.68	753.8	59.0	15.0	67	SW	2	1	.....	.....	10	.....	W	0	0	.....	T. Hopfner.
Wustrow	29.58	751.4	29.61	752.0	68.7	20.4	66	SSE	.....	.....	3	.....	10s	.....	.....	0.028	0.7	.....	E. Schultz, Director
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.8	29.82	757.3	87.8	31.0	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.6	29.60	751.8	84.0	28.9	64	SSW	18.0	8.0	.....	.....	5	SSW	.....	0	0	D. clouds.....	
Deesa	29.21	741.8	29.67	753.6	90.5	32.5	43	SSW	11.4	5.1	.....	.....	6	E	WSW	0	0	D. clouds....	
Bombay	29.71	754.6	29.75	755.6	79.8	26.6	89	NNW	14.0	6.3	.....	.....	10	.....	WSW	0.55	14.0	Overcast.....	
Poona	27.91	708.9	29.78	756.3	74.5	23.6	81	WNW	.....	.....	.....	.....	10	.....	WSW	0	0	Overcast.....	
Lahore	28.88	733.6	29.60	752.0	91.1	32.8	59	E	5 2	2.3	.....	.....	10	.....	.....	0	0	D. clouds....	
Belgaum	27.20	690.9	29.74	755.3	74.8	23.8	83	NW	1.0	0.4	.....	.....	10	W	W	0.02	0.5	Threatening	
Roorkee	28.74	729.9	29.63	752.5	83.2	28.4	71	SE	3.3	1.5	.....	.....	6	.....	.....	0	0	.....	
Agra	29.04	737.6	29.59	751.6	88.7	31.5	63	S	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.66	728.0	29.71	754.5	76.9	24.9	92	N	2.5	1.1	.....	.....	7	.....	E	0.03	0.8	D. clouds.....	
Lucknow	29.26	743.2	29.64	752.7	80.3	26.8	87	S	1.1	0.5	.....	.....	10	.....	.....	0.36	9.6	Overcast.....	
Allahabad	29.33	745.0	29.64	752.8	85.7	29.8	71	Calm	1.7	0.8	.....	.....	3	.....	.....	0.30	7.6	D. clouds.....	
Patna	29.44	747.8	29.61	752.2	86.6	33.3	74	Calm	0.7	0.3	.....	.....	4	.....	.....	0	0	D. clouds.....	
Hazaribagh	27.69	703.4	29.69	754.1	79.3	26.3	81	Calm	5.4	2.4	.....	.....	5	.....	.....	1.27	32.3	Thunder-storm...	
Cuttack	29.61	752.2	29.69	754.2	85.8	29.9	70	SW	3.0	1.3	.....	.....	3	.....	.....	0	0	D. clouds.....	
Calcutta (Alipore)	29.66	753.3	29.68	753.8	83.2	28.4	66	S	7.0	3.1	.....	.....	3	SW	SW	0	0	D. clouds.....	
Goalpara	29.26	743.3	29.65	753.0	86.0	30.0	71	Calm	0.5	0.2	.....	.....	1	.....	E	0	0	D. clouds.....	
Chittagong	29.63	752.6	29.73	755.0	82.9	28.3	83	W	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	
Sibsagar	29.35	745.4	29.68	753.8	84.4	29.1	79	NW	2.0	0.9	.....	.....	4	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.32	719.4	29.70	754.3	74.8	23.8	93	Calm	1.0	0.4	.....	.....	10	X	NE	1.67	42.4	Overcast.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.28	743.8	29.68	753.9	69.3	20.7	54	E	3.8	1.7	4		2			0.492	12.5		Prof. Giovanni Clodig.
Milan	28 13	739.9	29.03	752.5	75 9	24.4	47	SSE			4		3			0	0		Prof. Schiaparelli.
Padua	29.54	750.4	29.65	753.1	73.9	23.3	45	ESE	6.9	3.1			5	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.74	730.1	29.61	752.1	76.3	24 6	28	NNW	3.1	1.4			1	ESE		0	0		Prof. P. F. Denza.
Genoa	29.49	749.1	29.68	753.9	71.6	22.0	57	SE	14.3	6.4			4	N		0	0		Prof. G. M. Garibaldi.
Mondovi	27.79	705.8	29.62	752.3	71.1	21.7	28	WNW			4		1			0	0		Prof. D. C. Bruno.
Pesaro	29.59	751.6	29.64	752.8	75.2	24.0	46	NE	5.6	2.5			2			0	0		Prof. Luigi Guidi.
Florence	29.46	748.9	29.73	755.2	73.4	23.0	39	W			6		2			0	0		Cav. F. Meucci.
Leghorn	29.03	752.5	29.71	754.6	69.8	21.0	56	W	23.0	10.3			3			0	0		Prof. P. Monte.
Rome	29.62	752.3	29.79	756.6	76.6	24 8	43	SSW	15.1	8.1			7			0	0		Prof. P. S. Ferrari.
Lecce	29.56	750.9	29.81	757.1	82.0	27.8	44	WSW	6.3	2.8			5			0	0		Prof. C. De Giorgi.
Cosenza	28.98	736.1	29.82	757.5	84.9	29.4	59	NW	1.8	0.8			2			0	0		Prof. D. Conti.
Cagliari	29.66	753.4	29.85	758.1	78 3	25.7	33	NW			4		7	W		0	0		Prof. A. Pacinotti.
Palermo	29.61	752.2	29.86	758.5	79.7	26.5	54	E	5.6	2.5			1			0	0		Prof. G. Cacciatore.
Syracuse	29.74	755.5	29.82	757.4	86.0	30.0	48	S	8.7	3.9			2	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.30	744.3	29.86	758.4	73.4	23.0	66	W	11.2	5.0			10	SW		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 478.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.94	760 5	29.95	760.7	80.6	27.0	77	SW	10.4	4.6			4s			0	0	Dull	K. Sasaki.
Nagasaki, I. M. Obs'y	29.74	755.1	29.93	760 2	78.6	25.9	81	S	4 7	2.1			2s			0.100	2.54	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29 66	758.4	29.93	760.2	75.0	23 9	87	NNW	4.5	2.0			10s			0.015	0.38	Cloudy	The Staff.
Wakayama	29.90	759.4	29.95	760.7	81.0	27.2	76	S	4.9	2.2			0			0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.59	637.2	30.07	763.7	60.8	16.0	80	NE			1		6		E	0.17	4.4	Fair	Prof. L. Perez.
Leon	24.45	621.0	30.08	764.0	64.0	17.8	79	SW			1	8c	0	NE		0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	24.11	587.0	30.10	764.4	56.1	13.4	83	Calm	0	0		9k	0			0.12	3.0		The Staff.
Pabellon (Aguascallentes)					61.5	16.4	79	SW			1	3c	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.93	760.2	29.94	760.5	79.2	26.2	90	Calm			0	3	0	S		0.10	2.5	Clear	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.1	30.16	766.0	63.5	17.5	71	E			1	4	2	W	E	0	0	Cloudy	G. Barreda, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.7	30.15	765.8	57.7	14.3	69	NE			2	2cs	0	Calm		0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.7	30.22	767.5	50.0	10.0	85	SE	2.2	1.0		5c	0	SE		0	0	Clouded	Prof. P. Spua
Colima																			R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.67	753.7	29.96	761.0	75 9	24.4	94	N			2	0	8n		N	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.4 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.46	748.2	29.46	748.2	59.9	15.1		W			5					1.457	37.0		
Groningen	29.37	746.1	29.43	747.5	62.1	16 7		ESE			1					0.480	12.2		
Helder	29.37	746.0	29.37	746.0	59.5	15.5		E			4					0.047	1.2		
Hellevoetsluis	29.37	746.1	29.37	746.1	59.5	15.1	89	WNW			5					0.638	16.2		
Utrecht	29.35	745.4	29.39	746.6	62.6	17.0	89	SW			3		8			0.508	12.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.60	751.9	29.66	753.3	72.7	22.6	47	WNW	12.3	5.5	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.73	755.1	29.77	756.1	71.2	21.8	43	N	4	2	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.53	750.1	29.67	753.7	63.7	17.6	84	ENE	4	2	.....	.....	10	.....	.....	0	0	Raining	
Tromsö	29.77	756.2	29.82	757.3	60.8	16.0	59	N	7	3	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols.
The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.8	30.34	770.5	75.9	24.4	77	SSE	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	734.1	29.86	758.4	90.9	32.7	16	N	19.2	8.6	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.96	760.9	30.01	762.3	76.8	24.9	73	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.63	752.5	29.98	761.4	75.2	24.0	30	N	31.1	13.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.27	768.9	30.34	770.6	79.2	26.2	65	E	0	0	.....	.....	3	.....	.....	0.039	1.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't. A.M.de Sande, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.97	761.3	64.0	17.8	.....	N	.....	.....	4	.....	9	.....	N	1	N	D. clouds..... H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.93	760.2	74.1	23.4	.....	ENE	.....	.....	4	.....	5	.....	ENE	1	.....	D. clouds..... A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	S	Blue sky..... J.G. Felgo 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.89	759.2	82.4	28.0	.....	S	.....	.....	3	.....	0	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given.
The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.26	743.2	29.67	753.5	64.4	18.0	94	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Astronomical Obs.
Wilna	29.37	745.9	29.77	756.1	70.0	21.1	71	SW	9	4	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.56	750.7	29.78	756.5	72.9	22.7	57	WSW	4	2	.....	.....	2ck8	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.77	756.1	29.78	756.5	66.2	19.0	75	SW	4	2	.....	.....	8n;k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.15	740.4	29.74	755.3	86.2	30.1	53	SSE	7	3	.....	.....	6k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.76	756.0	29.84	757.8	93.0	33.9	33	SE	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.83	757.7	29.85	758.2	83.1	28.4	65	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.30	744.2	29.82	757.5	71.1	21.7	68	N	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.58	751.4	29.78	756.3	88.3	31.3	26	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.69	754.2	29.71	754.7	66.0	18.9	90	N	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.36	720.3	29.66	753.3	99.1	37.3	28	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.59	759.2	29.81	757.1	88.7	31.5	38	E	13	6	.....	.....	3s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Krotkowo*	29.27	743.4	29.71	754.6	76.8	24.9	47	W	9	4	.....	.....	4	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.40	746 8	29.65	753.2	76.6	24.8	67	SW	2	1	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.71	729.3	29.64	752.8	65.8	18 8	63	NE	4	2	.....	.....	9n;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.54	750.4	29.76	756.0	67.8	31.0	29	NNW	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.10	713.6	29.53	750.0	93.4	34.1	62	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.85	732.9	29.32	744.8	68.2	20.1	80	SW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.15	740.4	29.43	747.5	61.9	16.6	93	NE	2	1	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.51	749.6	29.65	753.2	78.8	26.0	89	SW	4	2	.....	.....	8n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.63	752.6	29.73	755.1	67.6	19.8	97	SE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.60	751.9	29.69	754.1	76.8	24.9	94	SE	11	5	.....	.....	10n	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.87	758.7	29.97	761.3	73.4	23	51	SE	4.2	1.89	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.6	30.16	766.0	64.4	18.0	75	NW	3.2	1.42	.....	1	8	SE	.....	0.177	4.5	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.47	690.1	.....	.....	60.4	15.8	56	N	10.7	4.78	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Peres.
Madrid, Royal Observatory	27.76	705.2	29.85	758.3	86.2	30.1	17	E	9.0	4.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.77	756.1	29.91	759.7	85.8	29.9	86	ESE	6.3	2.81	.....	0	4	.....	.....	0.024	0.62	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	743.0	30.14	765.5	65.1	18.4	57	NE	17.4	7.8	.....	.....	7	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.4	30.04	763.1	83.4	28.6	74	ESE	4.7	2.1	.....	5c	0	NE	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.80	756.9	29.85	758.2	81.7	27.6	84	S	1.8	0.8	.....	.....	2s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29 84	757.9	29.93	760.3	75.0	23.9	61	SW	7.7	3.4	.....	0	1	.....	W	0	0	.....	Capt. C. Pulaxon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.2	30.06	763.5	85.3	29.6	67	E	11.2	5.00	.....	3ck	3k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 800 meters, or 2,622 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.4	29.86	758.4	62.2	16.8	.....	NE	.....	.....	2	.....	10	.....	.....	t.	0	.....	
Umea	29.81	757.1	29.86	758.4	66.2	19.0	63	E	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.77	756.1	29.82	757.4	66.0	19.4	66	NE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Stockholm	29.55	750.5	29.72	755.0	68.7	20.4	73	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.63	752.5	29.69	754.0	66.9	19.4	82	N	.....	.....	4	.....	7	.....	.....	0.114	2.9	.....	
Sub-Series.																			
Upsala	29.62	752.3	29.71	754.5	73.0	22.8	62	ESE	7.6	3.4	.....	.....	10	.....	ESE	0.134	3.41	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstierna.
.....																			
.....																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.47	723.2	29.89	759.2	57.2	14.0	57	SSW	.....	.....	6	.....	10	.....	.....	0.028	0.7	Covered	The Observatory.
Zurich	28.19	715.9	29.81	757.2	57.6	14.2	67	W	.....	.....	6	.....	10	.....	.....	0.276	7.0	Raining	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −4.5 mm.; Thermometer,−8.7 Cent.; Relative Humidity, +5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.79	756.7	81.3	27.4	65	NNE	9	4.0	.....	.....	3	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.94	760.4	88.7	31.5	.....	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.66	753.4	29.78	756.3	89.1	31.7	55	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C.V. A. Van Dyck.
.....																			
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.84	757.9	29.90	759.4	61	16.1	92	SW	5	2.2	.....	.....	10s	.....	SW	0.59	15.0	Cloudy	G. A. Blah.
Charlottetown, P. E. Island	29.92	760.0	29.96	761.0	58	14.4	98	S	13	5.8	.....	.....	10n	.....	.....	0.276	6.99	Heavy rain	H J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.90	759.4	68.8	20.4	85	E	.....	.....	3	0	9s	.....	.....	0.058	1.47	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.73	755.1	29.89	759.2	62	16.7	94	W	.....	.....	3	0	1s	.....	.....	0.27	6.9	Clear	H. A. Johnson.
Esquimault, B. C.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.88	758.9	29.91	759.7	58	14.4	80	SW	12	5.4	.....	0	2s	.....	W	0.11	2.8	Clear	J. McWilliams.
Fredericton, N. B	29.90	759.4	29.96	761.0	61.9	16.6	89	W	4	1.8	.....	.....	Mist	.....	.....	0.64	16.3	Misty	Prof. Harrison.
*Fort Garry, Manitoba	29.12	739.6	29.93	760.2	58	14.4	94	NE	12	5.4	.....	5k	5n	NE	NE	0.840	21.34	Light rain	James Stewart.
Granton, Ontario	28.56	732.8	29.89	759.2	72.1	22.3	89	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S.	29.95	760.7	30.06	763.5	64	17.8	77	SW	12	5.4	.....	.....	10n	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.69	751.6	29.94	760.5	73.3	22.9	80	W	.....	.....	1	6ck	0	W	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.65	753.1	29.97	761.2	67	19.4	89	Calm	0	0	.....	.....	10n	.....	Calm	0.16	4.1	Heavy rain	S. Woods, M. A.
Little Glace Bay, N. S.	30.02	762.5	30.06	763.5	67.5	19.7	75	SW	16	7.2	.....	5k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.78	756.4	29.97	761.2	65	18.3	79	NE	4	1.8	.....	.....	10s	.....	W	0.28	7.1	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.91	759.7	68	20.0	90	E	4	1.8	.....	5cs	2ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.94	760.5	68.7	20.4	90	S	.....	.....	1	.....	9n	.....	.....	0.16	4.1	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.26	743.2	29.92	760.0	73	22.8	95	S	6	2.7	.....	10k	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S.	29.96	761.0	30.01	762.2	66.6	19.2	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.94	760.5	73	22.8	95	SE	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.67	753.6	29.98	761.5	62	16.7	83	NE	.....	.....	1	0	2s	.....	NE	0.41	10.4	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.54	750.3	29.99	761.7	63	17.2	80	S	2	0.9	.....	.....	5ks	.....	W	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	61	16.1	93	S	.....	.....	1	.....	Fog	.....	.....	0.25	6.3	Foggy	Dr. Gove.
St. John, N. B	29.82	757.4	29.96	761.5	55	12.8	100	S	8	3.6	.....	.....	Fog	.....	.....	0.10	2.5	Heavy fog	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.87	758.7	73	22.8	82	SE	2	0.9	.....	0	0	.....	.....	0.19	4.8	Clear	K Stewart.
Stayner, Ontario	29.12	739.6	29.86	758.2	73	22.8	81	Calm	0	0	.....	10k	0	NW	.....	0.06	1.5	Cloudy	R. J. Cole.
Stratford, Ontario	28.66	728.0	29.90	759.4	72.0	22.2	84	SW	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.	30.02	762.5	30.06	763.5	67	19.4	69	SW	16	7.2	.....	8cs	2ks	W	SW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.56	750.8	29.93	760.2	70	21.1	79	SE	2	0.9	.....	5k	5s	W	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.96	761.0	30.05	763.3	63.5	17.5	86	W	12	5.4	.....	10k	0	.....	.....	.....	.....	Raining	Prof. John E. Oram.
Woodstock	28.87	733.3	29.88	758.9	76.0	24.4	86	SW	10	4.5	.....	8ck	4ks	W	.....	0.36	9.1	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.27	768.8	66.0	18.9	59	SW	.....	.....	.....	5k	4s	.....	.....	0	0	Fair	John Delany.
.....																			

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.80	756.9	30.02	762.5	69	20.6	70	S	8	3.6	.....	2c	4s	Calm	W	0	0	Fair	
Alpena, Michigan	29.28	743.7	29.90	759.4	66	18.9	89	N	4	1.8	.....	.....	10s	.....	W	0.29	7.4	Cloudy	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	43	6.1	100	Calm	0	0	.....	5ck	0	N	.....	0	0	Fair	
Atlanta, Georgia	28.98	736.1	30.08	764.0	74	23.3	72	E	6	2.7	.....	10c	0	Calm	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.12	765.0	30.13	765.3	71	21.7	85	SW	10	4.5	.....	8k;hz	0	N; Calm	.....	0	0	Fair	
Augusta, Georgia	29.94	760.5	30.13	765.3	76	24.4	73	NE	1	0.4	.....	1cs	2s	Calm	Calm	0	0	Fair	
Baltimore, Maryland	30.06	763.5	30.10	764.5	72	22.2	80	S	6	2.7	.....	2k	Sm'e	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	30.07	763.8	30.10	764.5	75	23.9	90	S	12	5.4	.....	5c	Haze	SW	.....	0	0	Fair	
Bismarck, Dakota	28.22	716.8	30.08	764.0	58	14.4	88	NW	17	7.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Boerne, Texas	28.54	724.9	29.81	757.2	72	22.2	67	SE	1	0.4	.....	2c	0	Calm	.....	0	0	Clear	
Boise City, Idaho	27.09	688.1	30.06	763.3	60	15.6	55	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.88	758.9	30.03	762.7	67	19.4	84	SW	14	6.3	.....	5ck	2s	NW	Calm	0.01	0.3	Fair	
Brackettville, Texas	28.87	733.3	29.85	758.2	77	25.0	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.88	733.5	29.83	757.7	66	18.9	95	W	7	3.1	.....	0	0	.....	.....	0.99	25.1	Clear	
Brownsville, Texas	29.89	759.2	29.94	760.5	83	28.3	79	SE	4	1.8	.....	10ck	0	SE	.....	0	0	Cloudy	
Buffalo, New York	29.25	742.9	29.91	759.7	74	23.3	68	S	5	2.2	.....	5cs	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	88	31.1	37	Calm	.....	.....	0	2cs	5ks	S	E	Inap.	Inap	Fair	
Burlington, Vermont	29.68	753.9	29.96	761.0	70	21.1	75	SW	6	2.7	.....	5ck	2ks	W	SW	0.02	0.5	Fair	
Cairo, Illinois	29.65	753.1	30.02	762.5	80	26.7	74	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Campo, California	27.38	695.4	29.96	761.0	67	19.5	81	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.18	766.1	76	24.4	82	NE	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cape Henry, Virginia	30.12	765.0	30.14	765.5	73	22.8	76	SW	2	0.9	.....	5c	Haze	Calm	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	76	24.4	86	N	15	6.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Cape May, New Jersey	30.10	764.5	30.12	765.0	72	22.2	81	S	14	6.3	.....	5c	0	N	.....	0	0	Fair	
Castroville, Texas	29.20	741.7	29.87	758.7	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.04	763.0	30.09	764.3	79	26.1	74	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.31	744.5	30.09	764.3	76	24.4	69	S	1	0.4	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.35	745.5	30.13	765.3	72	22.2	76	N	1	0.4	.....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	62	16.7	83	SW	1	0.4	.....	8c	0	W	.....	0	0	Cloudy	
Chicago, Illinois	29.16	740.7	29.80	756.9	76	24.4	86	SW	8	3.6	.....	.....	10s	.....	SW	0.91	23.1	Cloudy	
Cincinnati, Ohio	29.38	746.2	29.99	761.7	80	26.7	59	SW	3	1.3	.....	.....	10s	.....	W	0	0	Threatening	
Cleveland, Ohio	29.25	742.9	29.94	760.5	75	23.9	72	SE	6	2.7	.....	5k	2s	SW	SW	0	0	Fair	
Coleman City, Texas	28.20	716.3	29.77	756.1	80	26.7	59	SW	6	2.7	.....	5cs	0	SE	.....	0	0	Fair	
Columbus, Ohio	29.16	740.7	29.95	760.7	78	25.6	65	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Concho, Texas	28.10	713.7	29.69	754.1	77	25.0	61	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	80	26.7	78	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.25	742.9	29.86	758.4	73	22.8	90	W	4	1.8	.....	.....	10s	.....	W	0.90	22.9	Cloudy	
Deadwood, Dakota	25.52	648.2	.....	.....	63	17.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.84	732.5	29.93	760.2	84	28.9	47	S	11	4.9	.....	8c	0	SW	.....	0	0	Cloudy	
Denison, Texas	29.20	741.7	29.95	760.7	83	28.3	71	S	3	1.3	.....	2c	0	S	.....	0	0	Fair	
Denver, Colorado	24.58	631.9	30.10	764.5	73	22.8	46	S	6	2.7	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Des Moines, Iowa	29.02	737.1	29.85	758.2	73	22.8	85	Calm	0	0	.....	0	Fog	.....	Calm	0.08	2.0	Foggy	
Detroit, Michigan	29.25	742.9	29.88	758.9	73	22.8	90	SW	3	1.3	.....	.....	10n	.....	W	0.06	1.5	Light rain	
Dodge City, Kansas	27.37	695.2	29.51	749.5	79	26.1	58	S	4	1.8	.....	2k	0	Calm	.....	0	0	Fair	
Dubuque, Iowa	29.19	741.4	29.85	758.2	70	21.1	85	SW	2	0.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Duluth, Minnesota	29.22	742.2	29.87	758.7	62	16.7	77	NE	12	5.4	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Eagle Pass, Texa	29.19	741.4	29.88	758.9	82	27.8	63	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.89	759.2	29.96	761.0	60	15.6	94	SW	8	3.6	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.35	669.3	.....	.....	70	21.1	44	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.26	743.2	29.93	760.2	77	25.0	69	S	5	2.2	.....	8ck	0	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.27	743.4	29.91	759.7	67	19.5	87	NE	12	5.4	.....	.....	10s	.....	NE	0.42	10.7	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	84	28.9	64	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.07	713.0	.....	.....	55	12.8	93	N	5	2.2	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.29	642.4	30.25	768.3	70	21.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.43	747.6	29.93	760.2	85	29.4	68	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	73	22.8	35	N	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	
Fort Griffin, Texas	28.72	729.5	29.94	760.5	75	23.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.50	698.5	.....	.....	68	20.0	69	N	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.77	705.4	29.59	751.6	76	24.4	54	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.80	756.9	81	27.2	83	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.20	716.3	.....	.....	59	15.0	76	W	22	9.8	.....	4ck	0	W	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	78	25.6	78	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.25	717.5	29.72	754.9	82	27.8	60	SW	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	80	26.7	87	SW	8	3.6	.....	0	8ks	.....	NW	0.46	11.7	Fair	
Graham, Texas	28.88	733.5	29.88	758.9	77	25.0	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.19	741.4	29.80	756.9	74	23.3	86	S	1	0.4	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.84	736.3	29.88	758.9	77	25.0	89	S	7	3.1	.....	2c	0	Calm	.....	0	0	Fair	
Indianapolis, Indiana	29.19	741.4	29.92	760.0	75	23.9	77	S	7	3.1	.....	.....	10n	.....	SW	0.02	0.5	Light rain	
Indianola, Texas	29.97	761.2	30.00	762.0	82	27.8	79	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair	
Jacksboro, Texas	28.84	732.5	29.91	759.7	83	28.3	64	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.01	762.2	30.03	762.7	80	26.7	82	NE	5	2.2	.....	5k	0	NE	.....	Inap.	Inap.	Fair	
Keokuk, Iowa	29.24	742.7	29.81	757.2	77	25.0	91	Calm	0	0	.....	5c	2s	W	W	0.17	4.3	Fair	
Key West, Florida	30.02	762.5	30.05	763.3	84	28.9	71	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Kittyhawk, North Carolina	30.08	764.0	30.10	764.5	75	23.9	77	NE	5	2.2	.....	2k	Sm'e	NE	Calm	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.12	765.0	71	21.7	64	Calm	0	0	.....	2cs	Sm'e	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.13	739.9	29.82	757.4	74	23.3	86	Calm	0	0	.....	5k	0	SW	.....	0.02	0.5	Fair	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	71	21.7	71	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.52	749.8	29.84	757.9	84	28.9	60	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.04	737.3	29.81	757.2	80	26.7	82	S	7	3.1	.....	1k	0	.....	.....	0.08	2.0	Clear	
Little Rock, Arkansas	29.69	754.1	30.03	762.7	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.57	751.1	29.90	759.4	65	18.3	81	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.47	748.5	30.00	762.0	79	26.1	54	S	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.45	748.0	30.10	764.5	75	23.9	59	SW	2	0.9	.....	2c	0	W	.....	0	0	Clear	
Madison, Wisconsin	28.89	733.8	29.82	757.4	72	22.2	90	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.24	742.7	29.92	760.0	60	15.6	71	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.05	763.3	76	24.4	64	SW	1	0.4	.....	Haze	0	Calm	.....	0	0	Hazy	
Memphis, Tennessee	29.71	754.6	30.03	762.7	79	26.1	78	SE	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Milwaukee, Wisconsin	29.12	739.6	29.80	756.9	73	22.8	81	NW	6	2.7	.....	0	1ks	.....	Calm	Inap.	Inap.	Clear	
Mobile, Alabama	29.97	761.2	30.01	762.2	78.5	25.8	86	E	10	4.5	.....	.....	10s	.....	E	0.50	12.7	Cloudy	
Montgomery, Alabama	29.88	758.9	30.10	764.5	75	23.9	81	E	5	2.2	.....	5k	5ks	E	E	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.08	738.6	30.02	762.5	77	25.0	69	SW	5	2.2	.....	5ck	.....	NW	.....	0	0	Fair	
Mt. Washington, N. H.	28.92	607.6	30.28	769.1	50	10.0	100	NW	27	12.1	.....	.....	Fog	.....	NW	0.77	19.6	Foggy	
Nashville, Tennessee	29.55	750.6	30.07	763.8	74	23.3	68	SE	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	29.96	761.0	30.07	763.8	72	22.2	76	S	8	3.6	.....	5c;hz	0	Calm	.....	0.08	2.0	Fair	
New London, Connecticut	30.05	763.3	30.10	764.5	70	21.1	85	SW	10	4.5	.....	6ck	4ks	W	SW	0.01	0.3	Cloudy	
New Orleans, Louisiana	29.90	759.4	29.98	761.0	80	26.7	78	NE	10	4.5	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Newport, Rhode Island	30.04	763.0	30.09	764.3	68	20.0	79	SW	9	4.0	.....	5k	2s	NW	Calm	Inap	Inap.	Clearing	
New York, New York	29.92	760.0	30.09	764.3	68	20.0	79	SW	9	4.0	.....	5k	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	30.00	762.0	30.10	764.8	76	24.4	73	S	4	1.8	.....	0	Sm'c	.....	.....	0	0	Smoky	
North Platte, Nebraska	27.11	688.6	29.55	750.6	72	22.2	90	NE	8	3.6	.....	2c	Haze	Calm	Calm	0	0	Fair	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	57.0	13.9	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.75	730.2	29.77	756.1	80	26.7	82	Calm	0	0	.....	0	2s	.....	Calm	0.37	9.4	Clear	
Oswego, New York	29.67	753.6	29.98	761.5	73	22.8	76	S	1	0.4	.....	.....	10s	.....	Calm	Inap	Inap	Cloudy	
Pembina, Dakota	28.98	736.1	29.77	756.1	61	16.1	94	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	30.04	763.0	30.09	764.3	72	22.2	80	SW	15	6.7	.....	2cs	Fog	Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.73	729.7	30.38	771.6	94	34.4	41	SE	2	0.9	.....	.....	10ks	.....	Calm	0.07	1.8	Cloudy	
Pike's Peak, Colorado	18.10	459.7	30.32	770.1	38	3.3	91	SW	26	11.6	.....	.....	10ks	.....	SW	0.38	8.4	Cloudy	
Pilot Point, Texas	29.07	738.4	29.85	758.2	91	32.8	66	SE	4	1.8	.....	2k	0	S	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	62	16.7	18	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.23	742.4	29.99	761.7	77	25.0	65	S	8	3.6	.....	8c	0	Calm	.....	0	0	Fair	
Port Huron, Michigan	29.24	742.7	29.87	758.7	73	22.8	85	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Portland, Maine	29.94	760.5	29.99	761.7	66	18.9	79	SW	8	3.6	.....	5k	0	Calm	.....	0.08	2.0	Fair	
Portland, Oregon	30.04	763.0	30.11	764.8	59.0	15.0	85	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.86	631.2	30.21	767.3	72	22.2	46	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	76	24.4	86	E	6	2.7	.....	5ck	5ks	Calm	SE	1.36	34.5	Cloudy	
Red Bluff, California	29.55	750.6	29.90	759.4	64	17.8	58	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.94	760.5	80	26.7	78	SE	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Rochester, New York	29.37	746.0	29.96	761.0	72	22.2	62	SW	4	1.8	.....	9c	Sm'e	W	.....	0	0	Cloudy	
*Roseburg, Oregon	29.54	750.3	30.11	764.8	58	14.4	88	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.81	757.2	29.89	759.2	56	13.3	81	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.38	746.2	29.93	760.2	78	22.8	90	S	12	5.4	.....	.....	10s	.....	NW	0.95	24.1	Cloudy	
St. Marks, Florida	30.05	763.3	30.07	763.8	76	24.4	86	NE	9	4.0	.....	1cs	0	E	.....	0.02	0.5	Clear	
St. Paul, Minnesota	28.99	736.3	29.77	756.1	72	22.2	85	E	2	0.9	.....	0	5s	.....	W	0.64	16.3	Fair	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	71	21.7	18	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.28	743.7	29.84	757.9	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.86	758.4	29.93	760.2	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.29	744.0	29.92	760.0	76	24.4	77	S	8	3.6	.....	5k	5k$	SW	SW	0	0	Cloudy	
Sandy Hook, New Jersey	30.06	763.5	30.08	764.3	73	22.8	72	SW	10	4.5	.....	8c	Haze	W	Calm	0	0	Fair	
San Francisco, California	29.87	758.7	29.94	760.5	56	13.3	87	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.45	595.6	29.99	761.7	57	13.9	60	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.01	762.2	30.10	764.5	79	26.1	78	NE	5	2.2	.....	5k	0	E	.....	0	0	Fair	
Shreveport, Louisiana	29.80	756.9	30.00	762.0	81	27.2	78	SE	4	1.8	.....	8ck	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.12	765.0	30.16	766.1	76	24.4	95	NE	5	2.2	.....	0	0	.....	.....	0.11	2.8	Clear	
Socorro, New Mexico	25.48	647.2	29.55	750.6	72	22.2	58	Calm	0	0	.....	0c	0	Calm	.....	0	0	Fair	
Springfield, Ill	29.26	743.2	29.90	759.4	75	23.9	86	SW	3	1.3	.....	.....	10s	.....	W	1.05	26.7	Cloudy	
Springfield, Massachusetts	29.92	760.0	30.04	763.0	69	20.6	80	S	5	2.2	.....	0	8ks	.....	W	0	0	Cloudy	
Stockton, Texas	29.97	685.0	29.97	761.2	76	24.4	2	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.00	762.0	30.06	763.5	59	15.0	65	SW	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Toledo, Ohio	29.26	743.2	29.91	759.7	75	23.9	77	W	8	3.6	.....	.....	10s	.....	SW	0	0	Threatening	
Tucson, Arizona	27.54	699.5	30.09	764.3	61	27.2	55	Calm	0	0	.....	2c	0	E	.....	0.03	0.8	Fair	
Umatilla, Oregon	29.62	752.3	30.10	764.5	67.0	19.4	74	Calm	0	0	.....	.....	10ks	.....	NW	0.02	0.5	Cloudy	
Uvalde, Texas	29.00	736.1	29.84	757.9	80	26.7	70	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.79	756.7	30.04	763.0	78	25.6	78	SE	0	0	.....	2cs	5s	Calm	SE	0	0	Fair	
Virginia City, Montana	24.29	617.0	29.77	756.1	62	16.7	51	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.52	749.8	29.58	758.9	58	14.4	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.98	761.5	30.10	764.5	74	23.3	72	S	7	3.1	.....	3c;k	Haze	NW; SW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	85	29.4	44	Calm	.....	.....	0	10cs	0	Calm	.....	0	0	Cloudy	
Wilmington, N. Carolina	30.06	763.5	30.13	765.3	76	24.4	77	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	60	15.6	34	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.04	763.0	30.08	764.0	68	20.0	90	SW	14	6.3	.....	.....	8ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.85	727.7	29.85	758.2	78	25.6	82	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.70	754.4	29.86	758.4	87	30.6	62	S	10	4.5	.....	0	8ks	.....	S	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.20	640.1	.....	.....	66.0	18.9	85	Calm	.....	.....	0	5c;ck	2ks	.....	.....	0.20	5.1	.....	Thomas Herran.
Navassa, W. I	29.90	759.4	29.98	761.5	80	26.7	.....	NE	.....	.....	.....	.....	.....	.....	.....	1.03	26.2	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	83	SE	.....	.....	2	3c	4k	E	.....	0.036	0.76	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft.,or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.555 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.458 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY**.

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.10‡	764.5‡	.....	.....	82	27.8	91	E	15	6.7	.....	.....	10	.....	E	0.24	6.1	.....	.....	Threat'ning..	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.93‡	760.2‡	.....	.....	75.5	24.2	93	NW	.....	.....	1	.....	7ks;n	.....	W	0.01	0.3	.....	.....	Clearing.....	
Adams. Mare I'd., Navy Yard, Cal.	29.96‡	761.0‡	.....	.....	63	17.2	83	SW	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
Alliance, Flushing, Netherlands..	29.47‡	748.5‡	.....	.....	59	15.0	88	NW	.....	.....	4–6	.....	10	.....	NW	.....	.....	.....	.....	Misty.....	
Ashuelot, Yokohama, Japan	29.94‡	760.5‡	.....	.....	77	25.0	95	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Colorado New York, N. Y.	30.06‡	763.5‡	.....	.....	70	21.1	80	SSW	12	5.4	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, Portland, Maine	29.99‡	761.7‡	.....	.....	64.2	17.9	83	SSW	.....	.....	1	.....	8	.....	Calm	2 h'rs	2 h'rs	.....	.....	Cloudy.....	
Constitution, N. 38° 37′, W. 74° 59′	30.15‡	765.8‡	.....	.....	66	18.9	94	SSW	.....	.....	3	.....	4	.....	SW	.....	.....	Smooth	.....	Clear.....	
Enterprise, Cronstadt, Russia	29.73‡	755.1‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	8	.....	E	Blank	Blank	.....	.....	Cloudy.....	
Essex, Buenos Ayres, Argentine Rep., S. A.	29.84‡	757.9‡	.....	.....	55	12.8	93	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	.....	
Franklin. Norfolk, Va.	30.14‡	765.5‡	.....	.....	73	22.8	85	SSW	6	2.7	.....	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Hartford. S. 35° —′, W. 51° —′	29.89‡	756.9‡	.....	.....	62	16.7	72	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mar I'd. Navy Yard, Cal.	29.93‡	760.2‡	.....	.....	62	16.7	83	SW	6	2.7	.....	.....	0	.....	SW?	.....	.....	.....	.....	Clear.....	
Kearsarge, St. Johns, New Foundland.	30.20‡	767.1‡	.....	.....	59	15.0	65	W	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Fair.....	
Michigan, Lake Erie	29.89‡	759.2‡	.....	.....	75	23.9	86	SSW	.....	.....	4	.....	8	.....	W	.....	.....	Light	SSW	Fair.....	
Monocacy, Shanghai, China	29.77‡	756.1‡	.....	.....	81	27.2	91	ESE	.....	.....	2	.....	2	.....	ESE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan	29.93‡	760.2‡	.....	.....	78	25.6	91	NW	.....	.....	2	.....	n	.....	.....	Light	Light	.....	.....	Thunder-storm..	
New Hampshire, Port Royal, S. C.	30.07‡	763.8‡	.....	.....	77	25.1	91	NE	10	4.5	.....	.....	7	.....	NE	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.01‡	62.2‡	.....	.....	61	16 1	82	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Shanghai, China	29.78‡	756.4‡	.....	.....	79	26.1	95	SE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	74	23.3	90	SW	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	61	16.1	88	SE	5	2.2	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast.....	
Portsmouth, Boston, Mass.	30.05‡	763.3‡	.....	.....	67	19.4	84	W	.....	.....	2	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Powhatan, Navy Yard, League Isl., Pa.	30.07‡	763.8‡	.....	.....	73	22.8	90	SSW	.....	.....	4	.....	5	.....	SW	0	0	.....	.....	Fair.....	
Quinnebaug, Constantinople, Turkey	29.77‡	756.1‡	.....	.....	79	26.1	74	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Ranger, Amoy, China	29.84‡	757.9‡	.....	.....	83	28.3	91	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, Yokohama, Japan	29.72‡	754.9‡	.....	.....	82	27.8	79	WSW	.....	.....	1	.....	10	.....	.....	0.02	0.5	Smooth	.....	Heavy rain..	
Rio Bravo, Brownsville, Texas	29.95‡	60.7‡	.....	.....	81	27.2	96	SW	.....	.....	1	.....	5	.....	SE	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.10‡	764.5‡	.....	.....	74	23.3	76	S	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Clear.....	
Saratoga, New London, Conn.	30.10‡	64.5‡	.....	.....	69	20.6	100	SW	.....	.....	3	.....	8	.....	Calm	Light	Light	.....	.....	D. clouds.....	
St. Louis, League Island, Pa	30.08‡	764.0‡	.....	.....	72	22.2	80	SSW	11	4.9	.....	.....	10	.....	ssw	0	0	.....	.....	Cloudy.....	
Trenton, Flushing, Netherlands...	29.44‡	747.8‡	.....	.....	59	15.0	88	NW	.....	.....	4–5	.....	10	.....	ssw	0.05	1.3	Mod'ate	N;W	Rainy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.93‡	760.2‡	.....	.....	59	15.0	100	SSW	.....	.....	2	.....	2	.....	NE	0	0	Smooth	.....	D. clouds.....	
Vandalia. New Bedford, Mass.	30.09‡	764.3‡	.....	.....	69	20.6	90	SW	.....	.....	6	.....	10	.....	SW	.....	.....	Mod'ate	SW	Cloudy.....	
Wabash, Boston, Mass.	30.04‡	763.0‡	.....	.....	69	20.6	80	SW	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
Wyoming. N. 38° 50′, E. 19° 32′	29.80‡	758.4‡	.....	.....	77	25.0	82	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	S	Clear	
Wachusett, New Orleans, La	29.94‡	760.6‡	.....	.....	80	26.7	91	NE	.....	.....	3	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 22° 54', W. 108° 34'..†		30.00‡	762.0‡	82	27.8	87	S			3		7		SW	0	Heavy ground	S	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 10° 48', W. 168° 28'.		29.86‡	758.2‡				E			5				W		Heavy	WSW.	Squally	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; H. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 41° 40', W. 155° 32'.. †		29.93‡	760.2‡	64	17.8	78	WNW			4		7cs			0	Mod'ate	WNW	Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 46° 34', E. 175° 56'....†		30.04‡	763.0‡	52	11.1	86	ESE			4		mist,f'g		SE	Light	Smooth	ESE	Mist & fog	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer,																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 16', W. 23° 37'		30.16‡	766.6‡				WNW			4		8		SW		4	NW	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.					
											Up'er	Low'r	Upper.	Lower.				
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—	
AMERICAN S. S. CO. MARINE SERIES.																		
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																		
S. S. Indiana, N. 45° 55', W. 43° 08'		30.26‡	769.1‡	56.	13.3	81	WNW			5		3		NW	0	Mod'ate	W	Cloudy? Captain R. W. Sargent.
S. S. Ohio																		Wm. Shackford, Chief Officer.
S. S. Pennsylvania																		Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, N. 34° 00', W. 76° 11'		30.08‡	764.0‡	80	26.7	78	ESE	7	8.1	...		8k		SE	0	Heavy	SE	Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N 34° 15', W. 7 ° 43'	†	30.18‡	766 6‡				NNW			1		8		NW	0	Mod'ate	E	Fair	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

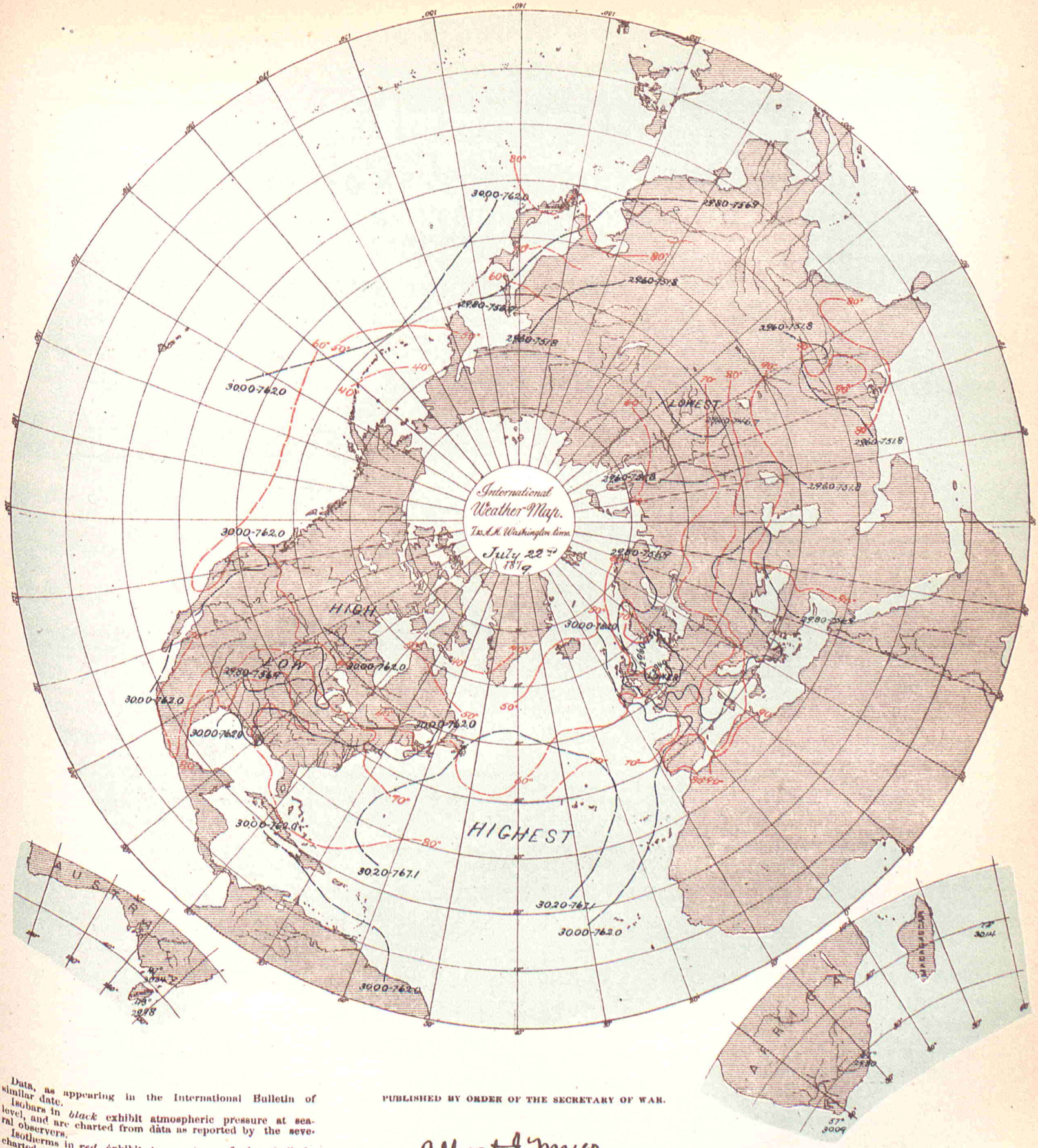
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, *fg* and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSO'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.01	762.3	68.0	20.0		N			2		2			0	0	Fair	
Nemours			30.03	762.8	78.8	26.0	76	N			3		5			0	0	Cloudy	Kesxuche.
Algiers			30.05	763.3	75.0	24.4	70	ENE			6		0			0	0	Clear	Tourilliere.
La Calle			30.12	765.0	80.8	27.1	71	NE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.15	765.7															Gau.
Saida			29.97	761.2	90.7	32.6	14	N			4		0			0	0	Clear	Herbin.
Tebessa			30.09	764.3	84.6	29.2	37	Calm			0		0			0	0	Clear	Watrin.
Geriville					83.8	28.8	37	N			2		2			0	0	Fair	Brugnlaux.
Laghouat			29.96	761.0	98.2	36.8	28	SE			3		2			0	0	Fair	Bertrand.
Biskra			30.03	762.7	103.3	39.6	20	E			2		0			0	0	Clear	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.31	744.4	29.84	758.0	64.0	17.8	75	NE			1		8			0.736	18.7	Thunder-storm.	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.7	29.74	755.4	71.2	21.8	58	W	8.7	3.9			6			0.146	3.7	Raining	Prof. Dr. Karlinski, Dir'
Eperies	28.89	733.9	29.74	755.4	65.6	18.6	70	S			3		10ns			0.416	10.58		Julius Mikolik.
Gratz	28.63	727.1	29.84	757.9	64.9	18.3	68	WSW			3		2			0	0		Andreas Rospini.
Hermannstadt	28.39	721.0	29.75	755.6	73.6	23.1	56	S			2		9			0.024	0.6		Prof. A. Gottschling.
Kremsmünster	28.53	724.7	29.84	758.0	61.5	16.4	67	WSW			2		10			0.047	1.2		Prof. C. Wagner.
Lemberg	28.76	730.4	29.70	754.4	69.4	20.8	67	NW			1		2			0.012	0.3		Dr. T Stanecki.
Pola	29.77	756.1	29.87	758.8	75.4	24.1	50	WNW			2		4			0.138	3.5		I.R.HydrographicOffice.
Szathmar	29.39	746.4	29.83	757.7	71.4	21.9	70	SE			2		7			0.126	3.2		Julius Csics, S. J.
Szegedin	29.52	749.9	29.80	756.8	69.1	20.6	82	Calm			0		8			0.244	6.20		Karl Stancel.
Trieste	29.77	756.1	29.87	758.7	74.1	23.4	49	Calm			0		1			0.031	0.8	Almost clear	P. Busin.
Vienna	29.14	740.1	29.89	759.1	68.0	20.0	53	W			3		8			0.102	2.6		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Observer.
Arlon	Prof. M. Passau.
Brussels	Royal Observatory.
Furnes	M. E. de Cae.
Maeseyck	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.88	758.9	29.98	761.5	53.5	11.9	.....	NW	12	5.4	.....	.....	9	.....	.....	0.015	0.38	Overcast	W. Boswell.
Ardrossan	29.95	760.7	29.96	761.0	58	14.4	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Wm. McNeil & G. Carrick
Armagh, Observatory	29.81	757.2	30.04	763.0	60.6	15.9	.....	WSW	7	3.1	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.05	763.3	55.6	13.1	.....	W	24	10.7	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	30.02	762.5	53.5	11.9	.....	W	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.62	752.3	30.02	762.5	58.0	14.4	.....	NW	.....	.....	2	.....	10	.....	.....	0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	83	28.3	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.93	760.2	30.03	762.7	62.0	16.7	.....	NW	.....	.....	1	.....	7	.....	.....	0	0	D. clouds	H. Todd.
Cardington	.....	.....	30.02	762.5	63.0	17.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.91	759.7	30.04	763.0	64.0	17.8	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.99	761.7	30.03	762.7	56	13.3	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.02	762.5	30.05	763.3	63	17.2	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth, Observatory	29.93	760.2	30.16	766.1	62.7	17.1	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.78	705.6	30.06	763.5	65.0	18.3	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	83	28.3	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.98	761.5	60	15.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.00	762.0	70.6	21.4	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.74	755.4	29.94	760.5	63.6	17.6	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	D. G. Maclean. [C.
Great Yarmouth	30.00	762.0	30.00	762.0	57	13.9	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.89	759.2	30.06	763.5	60.9	16.1	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.92	760.0	30.14	765.5	61.5	16.4	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.09	764.3	30.21	767.3	65	18.3	.....	NW	.....	.....	2	.....	8ck	.....	.....	0.10	2.5	Fine	M. P. Moyle.
Holyhead	30.06	763.5	30.08	764.0	58	14.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.88	758.9	30.17	766.3	60.8	16.0	.....	WNW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	30.01	762.2	30.04	763.0	61.5	16.4	.....	W	5	2.2	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.79	756.7	30.04	763.0	60.2	15.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.87	758.7	29.95	760.7	82.4	28.0	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.86	758.4	29.98	761.0	62	16.7	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.04	763.0	86.0	30.0	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.85	758.2	30.04	763.0	64.2	17.9	.....	NW	.....	.....	3	c	10k	SW	W	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.51	749.5	30.03	762.7	62.2	16.8	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.06	763.5	63	17.2	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	30.04	763.0	30.12	765.0	68.5	20.3	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.04	763.0	30.16	766.1	62	16.7	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.94	760.5	30.10	764.5	57	13.9	.....	WNW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.97	761.2	53.3	11.8	.....	NW	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Serg't W. H. Lyne.
Sheffield	29.76	755.9	30.04	763.0	61.4	16.3	.....	W	.....	.....	3	.....	7	.....	.....	0.03	0.8	Overcast	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	61.3	16.3	77	N	.....	.....	3	.....	0	.....	.....	0.080	2.03	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.04	763.0	54.1	12.3	.....	WSW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.84	757.9	30.06	763.5	68.6	20.3	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.14	765.5	30.15	765.8	65	18.3	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	30.04	763.0	30.07	763.8	57.8	14.3	.....	S	15	6.7	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.32	770.1	30.36	771.1	65.0	18.3	57	W	3.4	1.5	.....	10	9	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.82	757.4	46	7.8	68	W	.....	.....	9	.....	6k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.97	761.2	61.0	16.1	.....	E	.....	.....	1	.....	.....	.....	.....	0.05	1.3	Fine	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.7	71.6	22.0	64	E	15.5	6.9	.....	0	4	.....	SE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	45.2	7.3	91	NE	4	1.8	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

VESSELS.

	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 10′. E. 29° 05′	.....	.....	29.77‡	756.1‡	85	29.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Misty	Capt. W. J. L. Wharton.
Agnes Wilson, N. 46° 00′, W. 25° 20′	.....	.....	30.31	769.9	64	17.8	.....	NW	.....	.....	3	.....	8	.....	.....	3	WNW	D. clouds	Capt. H. W. Dyke.
Atmosphere, N. 40° 15′ W. 68° 35′	.....	.....	30.00	762.0	73	22.8	.....	S	.....	.....	5	.....	7	.....	.....	5	SE	D. clouds	.....
Astarte, N. 57° 55′, W. 9° 00′ *	.....	.....	29.91‡	759.7‡	53.2	11.8	.....	SE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Capt. Parson.
Barque Commewyne, N. 30° 15′, W. 55° 30′	.....	.....	30.19	766.8	81	27.2	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Capt. A. Buchan.
Theophane, S. 6° 05′, W. 15° 50′	.....	.....	30.03‡	762.7‡	79.8	26.6	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance, §	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.17	664.7	29.89	759.2	67.1	19.5	95	Calm			0	9s				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.2	29.66	753.4	67.6	19.8	58	Calm			0		5						
Fanöe	29.74	755.3	29.76	755.8	62.8	17.1	88	W			4		6						
Godthaab (Greenland)	30.04	762.9	30.08	764.0	38.3	3.5	95	WSW			2		10						
Stykkisholm (Iceland)	29.94	760.4	29.98	761.5	51.1	10.6	95	Calm			0		5						
Thorshavn (Faröe)	29.93	760.1	29.96	761.0	51.1	10.6	70	W			2		8						
Vestervig	29.62	752.4	29.73	755.2	63.5	17.5	84	NW			2		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.62	752.3	30.17	766.3	64.4	18	72	NW			1		8		NW	0.047	1.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.97	761.1	30.07	763.8	64.0	17.8	78	WNW			2		8		E	0	0	Very cloudy	Honvallet, Director.
Arras, Engin'r School	29.80	757.0	30.06	763.5	57.2	14.0	71	N			3		10		N	0.205	5.2	Covered	Klein, Commandant.
Avignon, Normal School	30.09	762.0	30.08	764.0	75.2	24	46	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.54	750.2	30.09	764.2	60.3	15.7	75	NNW			2		10		N	0.421	10.7	Covered	C. Saillard, Director.
Beauvais, Normal School	29.83	757.7	30.09	764.2	63.9	17.7	68	NNW			2		8		NW	0.079	2.0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.14	740.2	30.02	762.6	60.4	15.8	80	S			2		10		SW	0.35	9.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.30	744.3	30.23	767.8	60.8	16	81	S			5		n	W	W	0.47	12.		Marlot, Director.
Bourges, Normal School	29.83	750.0	30.07	763.8	62.2	16.8	83	W			1		10kn	W	W	0.20	5.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.91	759.6	30.15	765.8	66.6	19.2	73	WNW			1		8		NW	0	0		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.78	756.3	30.18	766.5	68.7	20.4	55	W			2		10	W	W	0	0	Covered	September, Dir.
Caen, Normal School	30.05	763.3	30.18	765.2	68.0	20	61	W			1				W	0	0		Lair, Director.
Chartres, Normal School	29.56	750.7	30.11	764.8	69.1	20.6	83	NNW			2		8		NW	0.098	2.5		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	756.3	30.00	764.2	64.2	17.9	62	SW			1		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.82	732.0	30.17	766.2	62.4	16.9	68	W			1		10		W	0.016	0.4		Alluard, Director.
Commercy, Normal School	29.18	741.1	30.03	762.7	58.5	14.7	84	W			1		5kn	W	W	0.811	20.6	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.93	734.9	30.08	763.9	72.7	22.6	36	NW			5		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.39	746.4	30.14	765.6	63.7	17.6	74	N			1		8kn		SE	0.181	4.6	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	30.02	762.6	30.24	768.0	62.2	16.8	80	WNW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.85	758.1	30.15	765.8	64.8	18.2	78	WNW			2		8		WNW	0.008	0.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.5	30.05	763.3	60.3	15.7	89	SW			1		10		SW	0.55	14.	Raining	A. Baudry, Director.
Lorient, Naval Observatory	30.11	764.8	30.21	767.3	66.2	19.0	68	WSW			3			NW	W	0	0		Lt.T. Carré, Director.
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	29.72	754.9	29.98	761.6	74.1	23.4	43	NW			6-7		4		NW	0	0		E. Stephan, Director
Mirecourt, Normal School	28.99	736.4	30.02	762.6	60.4	15.8	78	NW			3		10		NW	0.71	18.	Covered	Barbier, Director
Mont-Louis	24.98	634.4	30.29	769.4	61.7	16.5	51	E	24.2	10.8			0			0	0		M. Cave.
Nismes, Normal School	29.88	758.9	30.08	763.9	75.2	24	39	NW			5		5		NW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.82	757.5	62.6	17.0	70	NW			2		9		NW	0.047	1.2		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.69	576.2			48.2	9.0		SW			2		5			0	0	Fair	Gen'l de Nansouty.
Perpignan	30.05	763.3	30.15	765.9	72.0	22.2	42	NE	13.0	5.8			1	NW		0	0		Dr. Flues.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.80	642.7			42.4	5.8	100	WNW			3					0.028	0.7	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.19	766.8	30.22	767.6	69.3	20.7	69	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.04	763.0	30.13	765.2	62.6	17.0	70	W			2		10		NW	0.024	0.6	Covered	Lt. Hercouet, Director.
Saint Malo (Port) Obs'y	30.13	765.3	30.16	766.0	62.8	17.1	79	WNW			2		1	W	W	0	0	Clear	E. Renou, Director.
Saint Maur (near Paris)	29.94	760.4	30.10	764.6	68.0	17.2	78	NW			2-3		10		NW	0	0		T. Huguet, Director.
Tarbes, Normal School	29.01	736.9	30.05	763.3	73.4	23	66	N			1		0			0	0	Clear	M. Julier Mercadier.
Toulouse, Observatory	29.54	750.2	30.26	768.7	65.8	18.8	64	NW			2		9		WNW	0	0		Cousin-Marquet.
Tours	29.95	760.8	30.15	765.8	65.8	18.8	68	NW			1		10		NNW	0.075	1.9		Dr. A. Berigny, Director
Versailles, Observatory	29.61	752.1	30.10	764.6	65.1	18.4	60	NNW			3					0.011	0.28		Nicot, Director.
Villefranche-sur-Saone, N.S.	29.43	747.6	30.13	765.4	64.8	18.2	82	NW			2		10		SE	0.098	2.5	Covered	
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.2	29.80	756.9	79.2	26.2										0.08	2.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.50	749.3	30.13	765.3	62.6	17.0	70	WNW			1		10			0.039	1.50	Covered	Ch. André, Director.
Nice			29.93	760.2	75.6	24.2	66	SSE			3		0			0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.68	753.8	29.70	754.4	79.0	26.1	95	E	5.6	2.5			2			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.96	735.8	29.80	756.8	63.7	17.6	76	W			4		9	SW		0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	29.58	751.2	29.74	755.4	69.8	21.0	60	SW			4		7			0.047	1.2		Prof. Dr. Arndt.
Breslau	29.26	743.2	29.79	756.6	68.5	20.3	49	WSW			1		3			0.499	12.68		Royal University Ob's'y.
Carlsruhe	29.49	749.0	29.91	759.7	60.1	15.6	90	SW			4		9	SW		0.134	3.4	Raining	Albert Senx.
Cassel	29.25	743.0	29.85	758.3	66.6	19.2	66	NW			4		7	WNW		0.042	1.06		Dr. H. Möhl.
Crefeld	29.69	754.1	29.85	758.2	64.4	18.0	85	N			4		9n			0.08	2.	Raining	Director Lose.
Emden			29.80	757.0	63.3	17.4	84	NNW			3		6			0.185	4.7		Prof. Dr. Prestel.
Frankfort on the Main	29.48	748.9	29.85	758.1	65.3	18.5		WNW			2		7			0.266	6.5		Physical Society.
Freienwalde on the Oder	29.68	753.8	29.72	754.8	71.4	21.9	60	W			3		6ks	S		0.004	0.1	Thunder-storm.	Dr. Assmann.
Friedrichshafen	28.57	725.7	29.99	761.8	58.1	14.5	84	W			6		10	W		0.043	1.1		M. Wilhelm.
Hamburg	29.68	753.9	29.75	755.6	66.4	19.1	75	NW			2		9kn			0	0	Hazy	Captain F. Hegemann.
Kiel	29.72	755.0	29.74	755.4	66.4	19.1	74	W			2		9			0.048	1.22		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.56	750.8	29.64	752.8	61.7	16.5	79	NW			5		4			0.23	5.4		Prof. E. Luther.
Köslin			29.65	753.0	64.6	18.1		W			2		2			0	0		H. Müller.
Leipsic Observatory	29.35	745.6	29.76	756.0	64.0	17.8	77	WSW			1		8	WSW				Raining	Prof. Bruhns, Privy Counselor.
Memel	29.56	749.2	29.54	750.4	64.0	17.8	88	W			5		10n						Skalweit.
Munich (München)	28.11	713.9	29.97	761.1	59.7	15.4	64	W			10		10	SW		0.055	1.4		Dr. C. Lang.
Neufahrwasser	29.65	753.1	29.67	753.5	67.5	19.7	66	NE			2		1			0.028	0.7		A. Lothes.
Posen	29.47	748.4	29.74	755.4	73.9	23.3	44	W			2		6			0.047	1.2		Dr. Magener.
Strassburg (in Alsace)	29.45	747.9	29.99	761.7	62.2	16.8	73	WNW			3		10	WNW		0.772	19.59		Imp. University Observatory.
Stuttgart	28.94	735.0	29.86	758.5	60.8	16.0	74	W			7		8	W		0.043	1.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.37	720.6	29.86	758.5	55.6	13.1	88	SW	2	1			10	W		0.118	3.0		T. Hopfner.
Wustrow	29.71	754.5	29.73	755.1	65.5	18.6	78	WNW			3		7s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:6, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens																			Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.57	751.1	29.62	752.4	83.7	28.7	65	SW	12.0	5.4			4	SW	SW	0	0	D. clouds	
Deesa	29.24	742.7	29.70	754.4	91.5	33.1	44	SW	9.1	4.1			7		SW	0	0	D. clouds	
Bombay	29.69	754.1	29.72	755.0	84.7	29.3	75	NW	18.0	8.0			2	SSW		0.02	0.5	D. clouds	
Poona	27.88	708.1	29.72	754.8	81.2	27.3	68	W					8		W	0.04	1.0	Threatening	
Lahore	28.87	733.2	29.60	751.8	87.9	31.1	64	Calm	4.1	1.8			10					D. clouds	
Belgaum	27.21	691.2	29.74	755.5	75.6	24.2	74	ESE	2.0	0.9			10	NW	NW	0	0	Thunder-storm.	
Roorkee	28.72	729.4	29.61	752.0	80.8	27.1	89	S	4.0	1.8			10			0.05	1.3		
Agra	29.02	737.0	29.56	750.9	90.7	32.6	61	SW					5		S	0	0		
Nagpur	28.65	727.8	29.65	753.9	85.5	29.7	68	S	2.3	1.0			7		SE	0	0	D. clouds	
Lucknow	29.25	742.9	29.62	752.3	85.2	29.6	87	S	1.2	0.5			2		E	0.17	4.3	D. clouds	
Allahabad	29.33	745.1	29.64	752.9	87.0	30.6	72	Calm	1.2	0.5			6		SW	0	0	D. clouds	
Patna	29.46	748.4	29.64	752.9	86.0	30.3	76	Calm	0.4	0.2			6			0	0	D. clouds	
Hazaribagh	27.68	703.1	29.67	753.6	81.8	27.7	74	WSW	5.0	2.2			9		SW	0	0		
Cuttack	29.61	752.1	29.69	754.2	82.2	27.9	71	WSW	3.0	1.3			5			0	0	D. clouds	
Calcutta (Alipore)	29.63	752.7	29.65	753.2	89.0	31.7	69	S	4.0	1.8			6	W		0	0	D. clouds	
Goalpara	29.26	743.3	29.64	752.9	85.8	29.9	76	Calm	2.0	0.9			3			0	0	D. clouds	
Chittagong	29.62	752.4	29.72	754.8	82.6	28.1	88	Calm	4.2	1.9			6			0	0		
Sibsagar	29.32	744.6	29.65	753.0	87.2	30.7	73	NW	1.2	0.5			2			0	0	Blue sky	
Jubbulpore	28.30	718.9	29.65	753.0	85.8	29.9	71	Calm	0.9	0.4			3			0.11	2.8		

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,352 ft., or 412 m.. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.48	748.8	29.88	758.9	73.0	22.8	47	SW	0.7	0.3	.....	.....	7	.....	.....	0.055	1.4	.....	Prof. Giovanni Clodig.
Milan	29.37	746.0	29.87	758.7	74.8	23.8	48	NNW	.....	.....	2	.....	3	NW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.76	755.8	29.84	758.0	75.4	24.1	43	WSW	6.3	2.8	.....	.....	8	W	.....	0.024	0.6	.....	Prof. Dott. Lorenzoni.
Moncalleri	29.98	736.0	29.84	758.0	75.6	24.2	37	S	1.6	0.8	.....	.....	1	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.74	755.5	29.93	760.3	70.2	21.2	70	SE	14.3	6.4	.....	.....	0	.....	.....	0.035	0.9	.....	Prof. G. M. Garibaldi.
Mondovi	28.00	711.1	29.83	757.6	75.2	24.0	36	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.04	737.7	29.88	758.9	72.7	22.6	60	NE	9.8	4.4	.....	.....	5	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.68	753.9	29.93	760.2	77.0	25.0	43	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.83	757.7	29.91	759.8	73.2	22.9	67	W	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.78	756.4	29.95	760.7	77.2	25.1	48	SSW	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.2	29.90	759.4	81.5	27.5	53	ESE	17.4	7.8	.....	.....	4	WSW	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.1	29.94	760.4	84.6	29.2	59	NW	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.85	758.1	30.08	762.8	76.3	24.6	36	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pachiotti.
Palermo	29.76	755.9	30.01	762.2	74.8	23.8	66	WNW	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.1	29.92	759.9	82.8	28.2	58	E	6.3	2.8	.....	.....	1	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.4	30.02	762.5	74.3	23.5	55	SE	7.4	3.3	.....	.....	4	E	.....	0	0	.....	Prof. S. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 378.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.90	759.4	29.92	759.9	80.9	27.2	76	SW	7.6	3.4	.....	.....	10s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.89	759.2	80.7	27.1	77	S	4.7	2.1	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory.	29.80	756.9	29.86	758.4	77.2	25.1	78	NE	2.0	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.88	758.9	29.93	760.2	81.0	27.2	73	SSE	5.2	2.3	.....	.....	4s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.05	636.3	30.07	763.7	57.2	14.0	72	Calm	.....	.....	0	.....	10	.....	E	0.20	5.0	Covered	Prof. L. Perez.
Leon	24.43	620.4	30.08	764.1	61.2	16.2	71	NW	.....	.....	2	1c	0	NE	.....	0	0	Clear.	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.7	30.06	763.4	54.5	12.5	81	Calm	0	0	.....	2cs	0	.....	.....	0.612	0.3	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.3	17.4	62	Calm	.....	.....	0	2c	2ks	NE	NE	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.88	759.0	29.89	759.3	79.2	26.2	86	SE	.....	.....	1	3	0	Calm	.....	0	0	Clear	Prof. M. M. Chásaro.
San Luis Potosí	24.19	614.4	30.13	765.4	59.0	15.0	74	E	.....	.....	2	8	0	E	.....	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	572.9	30.07	763.7	64.2	17.9	50	W	.....	.....	1	7c	0	NE	.....	0	0	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.6	30.17	766.4	63.8	12.1	82	E	2.2	1.0	.....	7c	0	N	.....	0.56	14.2	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.72	754.9	30.00	762.1	75.0	23.9	97	NE	.....	.....	7	.....	10k	.....	NE	1.02	26.0	Stormy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.01	762.2	30.01	762.2	59.9	15.5	.....	NW	.....	.....	4	.....	.....	.....	.....	0.295	7.5	.....	
Groningen	29.80	756.9	29.85	758.3	61.7	16.5	.....	NW	.....	.....	2	.....	.....	.....	.....	0.197	5.0	.....	
Helder	29.91	759.8	29.91	759.8	58.3	14 6	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.95	760.8	29.95	760.8	59.9	15.5	87	NW	.....	.....	4	.....	.....	.....	.....	0.587	14.9	.....	
Utrecht	29.89	759.1	29.93	760.3	62.4	16.9	82	WNW	.....	.....	4	.....	8	.....	.....	0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.69	754.0	29.74	755.4	64.0	17.8	80	W	10.3	4.6	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.68	753.8	29.72	754.8	73.4	23.0	44	N	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.51	749.6	29.65	753.2	64.2	17.9	92	NNE	4	2	.....	.....	10	.....	.....	0.512	13.0	Raining	
Tromsö	29.76	755.8	29.80	756.9	59.0	15.0	65	NNE	13	6	.....	.....	1	.....	.....	0.020	0.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.9	30.34	770.6	74.8	23.8	77	ESE	8.1	3.6	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.97	761.1	85.8	29.9	23	ENE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.03	762.7	30.11	764.9	75.0	23.9	62	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.02	762.6	84.6	29.2	26	NNW	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.2	30.35	771.0	72.7	22.6	83	ESE	5.6	2.5	.....	.....	10	.....	.....	0.055	1.4	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello				
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea	1	NW	Blue sky	H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	1	ENE	Overcast	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello				H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	2	SW	Blue sky	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.29	743.9	29.69	754.2	69.3	20.7	59	W	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.21	741.8	29.61	752.0	67.8	19.9	79	SE	16	7	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.45	747.9	29.67	753.7	77.4	25.2	68	ESE	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Prof. Dr. Weilhrauch.
St. Petersburg	29.78	756.3	29.79	756.7	77.7	25.4	57	SE	9	4	.....	.....	9ks;k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.14	740.1	29.74	755.4	72.7	22.6	63	NW	27	12	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	86.9	30.5	44	SSW	22	10	.....	.....	3ck	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	29.81	757.1	29.85	758.2	84.9	29.4	58	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.38	746.3	29.90	759.4	77.7	25.4	69	S	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.64	752.9	29.84	757.8	90.5	32.5	22	E	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.80	756.9	29.82	757.4	50.6	15.9	93	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.35	720.0	29.65	753.0	98.8	37.1	26	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.87	758.6	29.78	756.5	93.0	33.9	35	E	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.40	746.8	29.85	758.1	79.5	26.4	51	N	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750.3	29.79	756.7	77.7	25.4	62	WNW	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.84	732.5	29.77	756.2	64.6	18.1	45	NNW	9	4	.....	.....	4ckb	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.54	750.4	29.76	756.0	88.7	31.5	44	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	
Tashkend	28.15	714.9	29.60	751.7	90.5	32.5	46	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.85	732.7	29.32	744.7	66.0	18.9	84	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.12	739.7	29.40	746.7	71.2	21.8	86	E	2	1	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk																			
Peking (China)	29.43	747.4	29.57	751.0	78.1	25.6	90	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	Thunder	Physical Observatory.
Nertchinsk																		.....	Meteorological Obs.
Vladivostock	29.62	752.3	29.72	754.8	71.6	22.0	88	ESE	13	6	.....	.....	8cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.73	755.1	29.82	757.3	52.0	11.1	93	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.00	762.0	30.10	764.6	73.4	23	59	E	4.1	1.83	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.4	30.27	768.8	69.4	20.8	66	NW	2.5	1.10	.....	.....	10	.....	.....	Inap.	Inap.	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.8	.....	.....	63.7	17.6	52	E	11.1	4.95	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.86	707.5	29.95	760.6	87.1	30.6	21	NE	4.5	2.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.93	760.2	30.07	763.8	82.0	27.8	55	ESE	6.3	2.83	.....	3	7	NW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.26	743.3	30.14	765.5	69.4	20.8	54	NE	16.1	7.2	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.3	30.09	762.0	81.0	27.2	78	ESE	1.1	0.5	.....	1c	0	.....	.....	0.287	7.3	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.79	756.7	82.3	27.9	86	SE	6.7	3.0	.....	.....	2s	.....	E	0.039	1.0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.1	29.98	761.6	86.7	30.4	49	ESE	22.9	10.3	.....	0	10	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.6	30.00	761.9	84.6	29.2	70	E	11.4	5.09	.....	4ck	8k	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,822 feet; Madrid 655.6 m, or 2,160.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.3	29.85	758.3	65.5	18.6	.....	NE	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	
Umea	29.84	758.0	29.89	759.3	66.6	19.2	66	E	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.74	755.3	29.79	756.6	66.2	19.0	77	NE	.....	.....	6	.....	7	.....	.....	0	0	.....	
Stockholm	29.42	747.2	29.60	751.7	64.0	17.8	88	NE	.....	.....	4	.....	10	.....	.....	0.150	3.8	Raining ...	
Wisby	29.45	748.0	29.51	749.5	66.2	19.0	92	E	.....	.....	4	.....	10	.....	.....	0.075	1.9	Raining	
Sub-Series.																			
Upsala	29.51	749.6	29.60	751.8	63.5	17.5	99	ENE	10.3	4.6	.....	.....	10	.....	ENE	0.400	10.15	Raining.....	Nils Ekho m.
Naval Series.																			
Corvette Saga, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.71	729.3	30.12	765.1	59.4	15.2	78	SSW	.....	.....	2	.....	10	.....	.....	0.098	2.5	Raining.....	The Observatory.
Zurich	28.43	722.0	30.05	763.3	57.2	14.0	92	W	.....	.....	4	.....	10	.....	W	0.197	5.0	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.6 mm.; Thermometer, −7.5 Cent.; Relative Humidity, +26 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Columbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.82	757.4	84.2	29.0	61	SW	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.6	87.4	30.8	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.61	752.1	29.72	755.0	92.5	33.6	54	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.84	757.9	29.90	759.4	60	15.6	89	SW	1	0.4	.....	.....	10ks	.....	SW	0	0	Cloudy.	G. A. Blair.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	63	17.2	93	S	4	1.8	.....	.....	10s	.....	.....	0.076	1.93	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.45	748.0	29.63	752.6	63.0	17.2	98	E	.....	.....	1	.....	10s	.....	.....	0.475	12.07	Overcast.....	James Smith, M. A.
Dalhousie, N. B	29.73	755.1	29.90	759.4	59.7	15.7	88	E	.....	.....	1	.....	9s	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.81	757.2	29.83	757.7	56	13.3	79	NE	3	1.3	.....	8c.	0	Calm	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.91	759.7	58.0	14.4	94	SE	6	2.7	.....	.....	10n	.....	.....	1.05	26.7	Raining.....	Prof. Harrison.
*Fort Garry, Manitoba	29.33	745.0	30.13	765.3	60	15.6	88	N	1	0.4	.....	0	0	.....	.....	0.020	0.51	Clear.....	James Stewart.
Granton, Ontario	28.68	728.5	29.73	755.1	66	18.9	95	Calm	.....	.....	0	.....	10n	.....	.....	1.02	25.9	Overcast	James Grant.
*Halifax, N. S	29.88	758.9	29.99	761.7	59	15.0	98	S	1	0.4	.....	.....	Fog	.....	.....	0.113	2.87	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.39	746.5	29.74	755.4	69.7	20.9	88	W	.....	.....	2	10ck	0	W	.....	0.861	21.87	Cloudy.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.37	746.0	29.69	754.1	68	20.0	93	SW	4	1.8	.....	.....	10ks	.....	SW	1.14	29.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.93	760.2	29.97	761.2	75.1	23.9	91	SW	7	3.1	.....	5k	0	SW	.....	0	0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
*Montreal, Quebec	29.52	749.8	29.71	754.6	59	15.0	97	E	5	2.2	.....	.....	10n	.....	.....	1.14	29.0	Light rain...	J. R. Nason
*Parry Sound, Ontario	29.00	738.1	29.72	754.9	65	18.3	94	NW	7	3.1	.....	5k	5ks	N	N	0.41	10.4	Cloudy.....	C. H. McLeod, C. E.
Peterboro, Ontario	28.95	735.3	29.67	753.6	69.1	20.6	92	E	.....	.....	1	.....	10n	.....	.....	0.45	11.4	Cloudy.....	Rev. R. Mosley.
Port Dover, Ontario	29.09	738.9	29.74	755.4	68	20.0	95	W	4	1.8	.....	10k	0	W	.....	0.38	9.7	Cloudy.....	J. F. Jeffers, B. A.
Port Hastings, N. S	29.90	759.4	29.95	760.7	63.6	17.6	.....	SW	8	3.6	.....	.....	.....	.....	.....	0	0	Fine.....	H. Morgan.
Port Stanley, Ontario	29.14	740.1	29.76	755.9	68	20.0	90	W	8	3.6	.....	.....	8n	.....	NW	0.25	6.3	Clearing.....	Peter Grant.
*Quebec, Quebec	29.46	748.3	29.77	756.1	63	17.2	78	NE	.....	.....	1	.....	10n	.....	NE	.....	.....	Light rain...	M. Payne.
*Rockliffe, Ontario	29.28	743.7	29.71	754.6	63	17.2	89	Calm	0	0	.....	.....	10s	.....	NE	0.18	4.6	Light rain...	Capt. Ashe, R. N.
St. Andrews, N. B	29.80	756.9	29.85	758.2	54	12.2	98	SE	.....	.....	1	.....	10n	.....	.....	0.56	14.2	Light rain...	W. H. McIntyre.
St. John, N. B	29.74	755.4	29.90	759.4	57	13.9	100	SE	3	1.3	.....	.....	10n	.....	.....	0.99	25.1	Light rain...	Dr. Gove.
*Saugeen, Ontario	29.06	738.1	29.75	755.6	63	17.2	98	NW	5	2.2	.....	.....	Fog	.....	.....	0.15	3.8	Foggy	G. Murdock, C. E.
Stayner, Ontario	28.97	735.8	29.72	754.9	65	18.3	97	NW	5	2.2	.....	.....	10n	.....	NW	0.37	9.4	Threatening	K. Stewart.
Stratford, Ontario	28.49	723.6	29.72	754.9	65.0	18.3	97	NW	8	3.6	.....	.....	10n;s	.....	.....	0.815	20.70	Cloudy	R. J. Cole.
*Sydney, C. B	29.95	760.7	29.98	761.5	66	18.9	85	SW	5	2.2	.....	8k	0	W	.....	0.03	0.8	Fair	C. J. MacGregor, M. A.
*Toronto, Ontario	29.33	745.0	29.76	754.4	69	20.6	92	NW	10	4.5	.....	.....	10ks	.....	W	0.84	21.3	Cloudy.....	T. C. Hill.
Windsor, N. S	29.94	760.5	30.03	762.7	61.0	16.1	94	S	3	1.3	.....	.....	10n	.....	.....	0.07	1.8	Raining.....	Magnetic Observatory.
Woodstock	28.68	728.5	29.70	754.4	67.9	19.9	89	NW	5	2.2	.....	4k	6ks	.....	.....	0.04	1.0	Cloudy.....	Prof. John E. Oram.
Sub-Series.																			Prof. J. Montgomery.
St. Johns, Newfoundland	29.88	757.7	30.07	763.8	67.0	19.4	79	SW	.....	.....	.....	5k	5s	.....	.....	0.02	0.5	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.78	756.4	68	20.0	92	S	6	2.7			10n		S	0.35	8.9	Light rain...	
Alpena, Michigan	29.15	740.4	29.77	756.1	62	16.7	94	NW	3	1.3			10s		NW	0.04	1.0	Threatening	
Atcha, Aleutian Is., Alaska					50	10.0	100	Calm	0	0			10n		W	0.18	4.6	Cloudy	
Atlanta, Georgia	28.85	732.8	29.94	760.5	74	23.3	81	W	4	1.8			10s		Calm	0.04	1.0	Cloudy	
Atlantic City, New Jersey	29.85	758.2	29.86	758.4	70	21.1	90	SW	12	5.4			10s		NW	0	0	Cloudy	
Augusta, Georgia	29.81	757.2	30.00	762.0	78	25.6	61	SW	2	0.9		1ck	1s	NW	NW	0	0	Clear	
Baltimore, Maryland	29.80	756.9	29.85	758.2	77	25.0	57	SW	7	3.1		5k	2s	W	SW	0	0	Cloudy	
Barnegat, New Jersey	29.84	757.9	29.86	758.4	64	17.8	94	S	12	5.4		8k	2s;fog	W	Calm	0	0	Cloudy	
Bismarck, Dakota	28.30	718.8	30.16	766.1	66	18.9	45	E	10	4.5			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.47	723.1	29.74	755.4	71	21.7	80	S	2	0.9		2c	0	Calm		0	0	Clear	
Boise City, Idaho	27.18	690.4	30.14	765.5	63	17.2	62	Calm	0	0		0	0			0	0	Clear	
Boston, Massachusetts	29.70	754.4	29.85	758.2	70	21.1	90	SW	10	4.5			10s		SW	0.32	8.1	Cloudy	
Brackettville, Texas	28.77	730.7	29.75	755.6	77	25.0	69	E	4	1.8		0	0			0	0	Clear	
Breckenridge, Minnesota	29.05	737.9	30.03	762.7	57	13.9	94	N	10	4.5			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.81	757.2	29.85	758.2	81	27.2	78	Calm	0	0		5ck	0	Calm		0	0	Fair	
Buffalo, New York	29.04	737.6	29.69	754.1	71	21.7	80	W	11	4.9			10s		W	1.32	33.5	Cloudy	
Burkes, Arizona					78	25.6	29	Calm			0	0	0			Inap	Inap.	Clear	
Burlington, Vermont	29.44	747.8	29.71	754.6	69	20.6	90	S	9	4.0			10k		S	0.22	5.6	Cloudy	
Cairo, Illinois	29.53	750.0	29.90	759.4	82	27.8	79	S	5	2.2		2c	5ks	Calm	W	0.26	6.6	Fair	
Campo, California	27.42	696.5	30.00	762.0	58	14.4	82	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.97	761.2	29.98	761.5	80	26.7	82	SW	12	5.4		0	8ks;s		Calm;SW	0	0	Cloudy	
Cape Henry, Virginia	29.91	759.7	29.93	760.2	74	23.3	76	SW	9	4.0		5ck	Fog	SW	S	0	0	Fair	
Cape Lookout, N. Carolina	29.97	761.2	29.99	761.7	80	26.7	76	W	9	4.0		5k	0	W		0	0	Fair	
Cape May, New Jersey	29.84	757.9	29.87	758.7	72	22.2	81	S	14	6.3		5ck	5ks	W	W	0	0	Cloudy	
Castroville, Texas	29.11	739.4	29.78	756.4	78	25.6	57	Calm	0	0		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	29.92	760.0	29.98	761.5	79	26.1	82	NW	1	0.4		2k	0			0	0	Fair	
Charlotte, North Carolina	29.14	740.1	29.91	759.7	78	25.6	73	SW	5	2.2		5ck	Haze	W	Calm	0	0	Fair	
Chattanooga, Tennessee	29.18	741.1	29.94	760.5	79	26.1	70	W	1	0.4		1k	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.15	613.4	30.09	764.3	58	14.4	94	SW	7	3.1			Fog			0.04	1.0	Foggy	
Chicago, Illinois	29.09	738.9	29.73	755.1	78	25.6	78	W	6	2.7		5ck	Haze	W		0	0	Fair	
Cincinnati, Ohio	29.26	743.2	29.88	758.9	77	25.0	84	W	3	1.3			10s;fg		W;Calm	0.28	7.1	Cloudy	
Cleveland, Ohio	29.10	739.1	29.78	756.4	73	22.8	85	SW	7	3.1			10s		SW	0.33	8.4	Cloudy	
Coleman City, Texas	28.11	714.0	29.68	753.9	78	25.6	82	Calm	0	0		0	0			0	0	Clear	
Columbus, Ohio	29.03	737.3	29.82	757.4	75	23.9	90	SW	3	1.3		8k	Sm'e	SW	Calm	0.20	5.1	Fair	
Concho, Texas	28.02	711.7	29.60	751.8	79	26.1	54	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.45	748.0	29.89	759.2	80	26.7	74	Calm	0	0		2cs	0	Calm		0	0	Clear	
Davenport, Iowa	29.21	741.9	29.81	757.2	72	22.2	76	NW	10	4.5		8c	0	W		0	0	Fair	
Deadwood, Dakota	25.50	647.7			63	17.2	67	Calm	0	0		2k	0	Calm		0.01	0.3	Fair	
Decatur, Texas	28.75	730.2	29.84	757.9	84	28.9	61	S	11	4.9		2c	0	Calm		0	0	Fair	
Denison, Texas	29.10	739.1	29.85	758.2	82	27.8	71	S	6	2.7		2cs	0	Calm		0	0	Fair	
Denver, Colorado	24.90	632.4	30.12	765.0	60	15.6	100	NW	4	1.8			Fog			0.30	7.6	Foggy	
Des Moines, Iowa	29.05	737.9	29.90	759.4	66	18.9	84	N	6	2.7			10s		NW	0	0	Cloudy	
Detroit, Michigan	29.10	739.1	29.73	755.1	69	20.6	100	SW	2	0.9			Fog		Calm	1.46	37.1	Foggy	
Dodge City, Kansas	27.37	695.2	29.55	750.6	70	21.1	90	Calm	0	0		5c	0	Calm		0	0	Fair	
Dubuque, Iowa	29.17	740.9	29.83	757.7	70	21.1	75	NW	5	2.2			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.35	745.5	30.02	762.5	60	15.6	77	N	10	4.5		0	0			0.11	2.8	Clear	
Eagle Pass, Texa	29.10	739.1	29.79	756.7	80	26.7	59	SE	1	0.4		1cs	0	Calm		0	0	Clear	
Eastport, Maine	29.81	757.2	29.88	758.9	53	11.7	100	NE	2	0.9			10n;fg		Calm	0.34	8.6	Heavy rain	
Edinburg, Texas					81	27.2	91	S			1	5c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.16	664.4			74	23.3	59	NW	12	5.4		0	2s		NW	0	0	Fair	
Erie, Pennsylvania	29.06	738.1	29.73	755.1	72	22.2	90	W	10	4.5			10s		W	1.13	28.7	Cloudy	
Escanaba, Michigan	29.23	742.4	29.86	758.4	59	15.0	76	N	21	9.4			10s		N	0	0	Cloudy	
Florence, Arizona	28.43	722.1	30.03	762.7	85	29.4	57	S	1	0.4		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.02	711.7			61	16.1	82	SE	4	1.8		10cs	0	Calm		0	0	Cloudy	
Fort Davis, Texas	25.24	641.1	30.20	767.1	66	18.9	54	W	4	1.8		10cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.32	744.7	29.82	757.4	84	28.9	68	SE	1	0.4		0	0			0	0	Clear	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	74	23.3	32	Calm	0	0		2cs	0	Calm		0.29	7.4	Clear	
Fort Griffin, Texas	23.63	727.2	29.83	757.7	79	26.1	62	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.46	697.5			64	17.8	94	N	13	5.8			10n		Calm	0.47	11.9	Light rain	
Fort McKavett, Texas	27.69	703.3	29.51	749.5	76	24.4	52	S	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.67	728.2	29.71	754.6	81	27.2	63	S	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.28	718.3			60	15.6	82	E	5	2.2			8s		S	0	0	Cloudy	
Fort Verde, Arizona					71	21.7	62	NW			1	0	0			0.01	0.3	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.18	715.8	29.64	752.8	82	27.8	49	Calm	0	0		2cs	0	Calm		0	0	Fair	
Galveston, Texas	29.86	758.4	29.90	759.4	82	27.8	83	W	6	2.7		Haze	2ks	Calm	SW	0	0	Clear	
Graham, Texas	28.80	731.5	29.78	756.4	83	28.3	60	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.11	739.4	29.72	754.9	74	23.3	86	Calm	0	0		2c	2s	N	Calm	0.20	5.1	Fair	
Helena, Montana																			
Henrietta, Texas	28.92	734.6	29.80	756.9	80	26.7	66	SE	4	1.8		0	0			0	0	Clear	
Indianapolis, Indiana	29.10	739.1	29.83	757.7	77	25.0	91	SW	1	0.4			10s		Calm	0.13	3.3	Cloudy	
Indianola, Texas	29.89	759.2	29.91	759.7	83	28.3	75	SW	8	3.6		1c	0	SW		0	0	Clear	
Jacksboro, Texas	28.77	730.7	29.82	757.4	85	29.4	54	S	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.01	762.2	79	26.1	82	SW	4	1.8		5k	0	SW		0	0	Fair	
Keokuk, Iowa	29.18	741.1	29.75	755.6	78	25.6	78	N	9	4.0			10s		Calm	0	0	Cloudy	
Key West, Florida	29.99	761.7	30.02	762.5	83	28.3	68	SE	2	0.9		5k	0	Calm		0	0	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.96	759.4	77	25.0	86	SW	12	5.4		5k	0	SW		0	0	Fair	
Knoxville, Tennessee	28.97	735.8	29.92	760.0	77.5	25.3	61	SW	6	2.7		1ck	2ks	W	Calm	0	0	Fair	
La Crosse, Wisconsin	29.13	739.9	29.83	757.7	69	20.6	85	N	10	4.5			10ks		N	0.07	1.8	Cloudy	
La Mesilla, New Mexico	26.06	661.9	30.22	767.6	65	18.3	84	Calm	0	0		5c	0	NW		0	0	Fair	
Laredo, Texas	29.44	747.8	29.76	755.9	85	29.4	51	SE	4	1.8		2k	0	Calm		0	0	Clear	
Leavenworth, Kansas	29.01	736.8	29.81	757.2	70	21.1	90	N	13	5.8			10n		SW	0.59	15.0	Light rain	
Little Rock, Arkansas	29.59	751.6	29.93	760.2	81	27.2	74	Calm	0	0		0	2ks	Calm	0	0	Clear		
Los Angeles, California	29.62	752.3	29.96	761.0	61.5	16.4	91	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.35	745.5	29.88	758.9	79	26.1	70	S	3	1.3		0	0			Inap.	Inap.	Clear	
Lynchburg, Virginia	29.24	742.7	29.88	758.9	76	24.4	60	S	3	1.3			10s		SW	0	0	Threatening	
Madison, Wisconsin	28.82	732.0	29.78	756.9	69	20.6	85	NW	12	5.4			10s		NW	0	0	Cloudy	
Marquette, Michigan	29.23	742.4	29.91	759.7	60	15.6	82	NW	12	5.4			10ks		NW	0.69	17.5	Cloudy	
Mason, Texas	28.30	718.8	29.95	760.7	80	26.7	55	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.60	751.8	29.92	760.0	82	27.8	75	S	6	2.7		5cs	0	NW		0.02	0.5	Fair	
Milwaukee, Wisconsin	29.06	738.1	29.74	755.4	69	20.6	95	N	7	3.1			Fog			0.01	0.3	Foggy	
Mobile, Alabama	29.91	759.7	29.95	760.7	79.5	26.4	93	SW	2	0.9			10s		S	0.32	8.1	Cloudy	
Montgomery, Alabama	29.76	755.9	29.99	761.7	81	27.2	82	SE	1	0.4		2k	0	SE		0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.90	734.0	29.83	757.7	73	22.8	76	SW	4	1.8	.....	.....	10ks	.....	SW	0.03	0.8	Threatening	
Mt. Washington, N. H.	28.74	603.0	30.10	764.5	40	9.4	100	NW	30	13.4	.....	.....	10n	.....	NW	1.33	33.8	Light rain	
Nashville, Tennessee	29.43	747.5	29.93	760.2	82	27.8	71	SW	1	0.4	.....	0	5k	.....	SW	0	0	Fair	
New Haven, Connecticut	29.73	755.1	29.84	757.9	72	22.2	85	S	5	2.2	.....	.....	10s;hz	.....	Calm	Inap.	Inap.	Cloudy	
New London, Connecticut	29.83	757.7	29.87	758.7	69	20.6	95	S	10	4.5	.....	.....	10s	.....	SW	0	0	Threatening	
New Orleans, Louisiana	29.82	757.4	29.88	758.9	82	27.8	79	E	12	5.4	.....	.....	10ks	.....	E	0.13	3.3	Threatening	
Newport, Rhode Island	29.84	757.9	29.89	759.2	71	21.7	87	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
New York, New York	29.68	753.9	29.84	757.9	70	21.1	90	SW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Norfolk, Virginia	29.88	758.9	29.93	760.2	78	25.6	93	SW	11	4.9	.....	.....	8s	.....	SW	0	0	Cloudy	
North Platte, Nebraska	27.12	688.8	29.60	751.8	66	18.9	89	NE	12	5.4	.....	5k	5s	NE	NE	0.02	0.5	Cloudy	
Olympia, Washington Ter.	30.10	764.5	30.14	765.5	63.5	11.9	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.82	732.0	29.87	758.7	70	21.1	90	NE	2	0.9	.....	.....	10n	.....	SE	0.40	10.2	Light rain	
Oswego, New York	29.43	747.6	29.93	760.2	72	22.2	80	SW	6	2.7	.....	2c	8s	W	W	0.41	10.4	Cloudy	
Pembina, Dakota	29.23	742.4	30.05	763.3	50	10.0	100	Calm	0	0	.....	0	.....	.....	.....	0	0	Clear	
Philadelphia, Pa	29.79	756.7	29.84	757.9	74	23.3	76	SW	10	4.5	.....	6ck;cs	Haze	W;Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.71	729.2	30.41	772.4	82	27.8	63	SE	1	0.4	.....	2ck	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	40	4.4	39	NW	5	3.6	.....	8ck	0	W	.....	0.23	5.8	Fair	
Pilot Point, Texas	29.09	738.9	29.88	758.9	86	30.0	71	SE	12	5.4	.....	5k	5s	S	SE	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	63	17.2	47	S	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.03	737.3	29.79	756.7	72	22.2	90	S	8	3.6	.....	.....	10s	.....	Calm	0.31	7.9	Cloudy	
Port Huron, Michigan	29.11	739.4	29.73	755.1	67	19.4	89	SW	1	0.4	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy	
Portland, Maine	29.76	755.9	29.81	757.2	65	18.3	84	S	4	1.8	.....	.....	10n	.....	Calm	0.57	14.5	Light rain	
Portland, Oregon	30.07	763.8	30.14	765.5	60.5	15.8	82	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Prescott, Arizona	24.84	630.9	30.20	767.1	63	17.2	72	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	79	26.1	82	SE	5	2.2	.....	5k	0	SE	.....	0	0	Fair	
Red Bluff, California	29.55	750.6	29.90	759.4	67	19.4	42	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.06	738.4	29.87	758.7	76	24.4	82	SE	4	1.8	.....	8cs	0	Calm	.....	0	0	Fair	
Rochester, New York	29.12	739.6	29.70	754.4	69	20.6	90	W	6	2.7	.....	.....	10s	.....	W	1.44	36.6	Cloudy	
*Roseburg, Oregon	29.54	750.3	30.11	764.8	54	12.2	87	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Sacramento, California	29.80	756.9	29.88	758.9	64	17.8	63	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.26	743.2	29.80	756.9	81	27.2	83	S	2	0.9	.....	2c	Sm'e	Calm	.....	0.01	0.3	Fair	
St. Marks, Florida	29.99	761.7	30.01	762.2	79	26.1	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.10	739.1	29.89	759.2	64	17.8	73	N	14	6.3	.....	0	8ks	.....	N	0	0	Fair	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	75	23.9	30	NW	4	1.8	.....	4k	0	SW	.....	0	0	Fair	
San Antonio, Texas	29.20	741.7	29.76	755.9	80	26.7	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.91	759.7	29.98	761.5	63	17.2	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.14	740.1	29.77	756.1	74	23.3	86	SW	11	4.9	.....	8ck	2ks	SW	SW	0.57	14.5	Cloudy	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	77	25.0	57	S	12	5.4	.....	2cs	8s	W	W	0	0	Cloudy	
San Francisco, California	29.86	758.4	29.93	760.2	54	12.2	93	W	8	3.6	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	59	15.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.91	759.7	30.00	762.0	81	27.2	83	SE	2	0.9	.....	2k	0	N	.....	0	0	Fair	
Shreveport, Louisiana	29.69	754.1	29.90	759.4	81	27.2	74	SE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.97	761.2	30.01	762.2	79	26.1	91	W	2	0.9	.....	0	2ks	.....	W	0	0	Fair	
Socorro, New Mexico	25.45	646.4	29.51	749.5	70	21.1	66	Calm	0	0	.....	0	2s	.....	Calm	0.27	6.9	Clear	
Springfield, Ill	29.17	740.9	29.81	757.2	82	27.8	75	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Springfield, Massachusetts	29.71	754.6	29.84	757.9	69	20.6	95	S	6	2.7	.....	.....	10n	.....	S	0.27	6.9	Light rain	
Stockton, Texas	26.87	682.5	29.87	758.7	75	23.9	4	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.84	757.9	29.90	759.4	59	15.0	70	SW	8	3.6	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Toledo, Ohio,	29.10	739.1	29.74	755.4	73	22.8	90	SW	8	3.6	.....	2ck	8s	SW	SW	1.22	31.0	Threatening	
Tucson, Arizona	27.52	699.0	30.06	763.5	80	26.7	66	Calm	0	0	.....	2c	0	Calm	.....	0.08	2.0	Fair	
Umatilla, Oregon	29.70	754.4	30.18	766.6	64.0	17.8	73	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.99	736.3	29.76	755.9	81	27.2	55	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	79	26.1	82	SE	6	2.7	.....	8c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.82	617.7	29.80	756.9	61	16.1	66	SE	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Visalia, California	29.40	749.0	29.85	758.2	60	15.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.73	755.1	29.84	757.9	79	26.1	54	SW	8	3.6	.....	5k	Haze	SW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	48	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.89	759.2	29.97	761.2	75	23.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.99	652.5	30.05	763.3	54	12.2	43	E	4	1.8	.....	0.	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.84	757.9	29.88	758.9	72	22.2	80	SW	22	9.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.73	729.7	29.99	761.7	61	16.1	82	NE	5	2.2	.....	10ck	0	Calm	.....	0	0	Cloudy	
Yuma, Arizona	29.68	753.9	29.84	757.9	81	27.2	67	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrauc
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.17	639.3	.....	.....	66.5	19.2	80	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.86	758.4	29.94	760.5	80	26.7	.....	E	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	77	25.0	91	E	.....	.....	3	4c	5k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 536 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.890 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 66.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10‡	764.5‡	.....	.....	82	27.8	91	SW	15	6.7	.....	.....	10	.....	SW	0.26	6.6	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡	.....	.....	78.6	25.8	78	Calm	.....	.....	0	.....	10s	.....	W	0	0	.....	.....	Lightly covd	
Adams, Mare I'd., Navy Yard, Cal.	29.91‡	759.7‡	.....	.....	59	15.0	100	SSW	.....	....	3	.....	5	.....	SSW	.....	.....	.....	.....	Fair	
Alliance, Flushing, Netherlands	29.99‡	761.7‡	.....	.....	59	15.0	88	NW	.....	.....	3-4	.....	10	.....	N	.....	.....	.....	.....	Misty	
Colorado, New York, N. Y.	29.83‡	757.7‡	.....	.....	71	21.7	90	S	8	3.6	.....	.....	10	.....	S; W	0	0	.....	.....	Misty	
Constellation, Portland, Maine	29.83‡	757.7‡	.....	.....	60.7	15.9	100	S	.....	.....	1	.....	10	.....	Calm	Heavy	Heavy	.....	.....	Foggy	
Constitution, N. 40° 28′, W. 73° 53′	29.86‡	758.4‡	.....	.....	67	19.4	95	S	.....	.....	3	.....	8	.....	S	.....	.....	Smooth	.....	Cloudy.	
Enterprise, Cronstadt, Russia	29.83‡	757.7‡	.....	.....	69	20.6	85	E	.....	.....	2	.....	8	.....	E	Blank	Blank	.....	.....	Cloudy	
Essex, Buenos Ayres, Argentine Rep., S. A.	29.85‡	758.2‡	.....	.....	55	12.8	93	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	.....	
Franklin, Norfolk, Va.	29.95‡	760.7‡	.....	.....	76	24.4	77	SW	10	4.5	.....	.....	8	.....	.....	.....	.....	.....	.....	Fair	
Hartford S. 33° 22′, W. 47° 50′	29.85‡	758.2‡	.....	.....	69	20.6	80	NW	.....	.....	6	.....	8	.....	NW	0	0	Mod'ate	NE	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.91‡	759.7‡	.....	.....	60	15.6	82	S	1	0.4	.....	.....	2	.....	SW	.....	.....	.....	.....	Foggy	
Kearsarge, St. Johns, New Foundland.	29.97‡	761.2‡	.....	.....	62	16.7	88	WNW	.....	.....	2	.....	8	.....	WNW	.....	.....	.....	.....	Fair	
Michigan. Detroit, Mich	29.74‡	755.4‡	.....	.....	70	21.1	95	S	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Monocacy. Shanghai, China	29.70‡	754.4‡	.....	.....	82	27.8	91	ESE	.....	.....	2	.....	2	.....	ESE	.....	.....	.....	.....	Fair	
Monongahela, Yokohama, Japan	29.85‡	758.2‡	.....	.....	80	26.7	82	NW	.....	.....	0-1	.....	n	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30.00‡	762.0‡	.....	.....	81	27.2	83	N	3	1.3	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Onward, Callao, Peru	29.99‡	761.7‡	.....	.....	61	16.1	88	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.70‡	754.4‡	.....	.....	79	26.1	91	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	73	22.8	??	SW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	61	16.1	94	SE	3	1.3	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Boston, Mass.	29.88‡	758.9‡	.....	.....	69	20.6	90	SW	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Drizzling	
Powhatan, Navy Yard, League Isl., Pa.	29.88‡	758.9‡	.....	.....	76	24.4	77	SW	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.78‡	756.7‡	.....	.....	77	25.0	86	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Amoy, China	29.72‡	754.9‡	.....	.....	88	31.1	87	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds	
Richmond, Yokohama, Japan	29.88‡	758.9‡	.....	.....	81	27.2	78	NW	.....	.....	1	.....	10	.....	.....	0.01	0.3	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	29.88‡	758.9‡	.....	.....	78	25.6	100	S	.....	.....	1	.....	5	.....	S	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	29.86‡	758.4‡	.....	.....	78	25.6	61	SW	.....	.....	2	.....	5	.....	SW	0	0	.....	.....	Fair	
Saratoga, Gardner's Bay, Long I'd., N.Y.	29.89‡	759.2‡	.....	.....	67	19.4	95	SW	.....	.....	4	.....	8	.....	S	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.87‡	758.7‡	.....	.....	75	23.9	86	SW	8	3.6	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy	
Trenton, Flushing, Netherlands	29.97‡	761.2‡	.....	.....	59	15.0	88	NNW	.....	.....	3-4	.....	10	.....	WNW	0.01	0.3	Mod'ate	N; W	Cloudy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.94‡	760.5‡	.....	.....	58	14.4	100	SSW	.....	.....	2	.....	5	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 39° 27′, W. 73° 19′	29.89‡	759.2‡	.....	.....	72	22.2	95	SW	.....	.....	5	.....	10	.....	SW	0	0	Mod'ate	SW	Cloudy	
Wabash, Boston, Mass.	29.89‡	759.2‡	.....	.....	71	21.7	85	SW	7	3.1	.....	.....	10	.....	.....	0.24	6.1	.....	.....	Overcast	
Wyoming, N. 36° 48′, E. 21° 40′	29.92‡	760.0‡	.....	.....	79	26.1	78	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	NW	Clear	
Wachusett, New Orleans, La	29.91‡	759.7‡	.....	.....	81	27.2	91	E	.....	.....	3	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.

†Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 24° 45′, W. 112° 22′..†		29.94‡	760.5‡	73	22.8	100	NW			3		4		Calm	0	Heavy Ground	SSE	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur[illegible]
S. S. Dakota, Capt. H. G. Morse,										—									W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 15° 31′, W. 169° 57′		29.93‡	760 2‡				ENE			1				W		Heavy	SE	Squally	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Glendell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 41° 57′, W. 160° 48′.. †		30.11‡	764.8‡	62	16.7	77	NW			4		3k			0	Mod'ate	NW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 47° 04′, E. 177° 11′.... †		30.20‡	767.1‡	54	12.2	74	ESE			3		mist;fg.		ESE	0	Smooth	ESE	Mist & fog..	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipsig, Capt. F. Feifer,																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 10′, W. 29° 05′		30.32‡	770.1‡				NW			4		8		NW		4	NW	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 26′, W. 49° 15′		30.25‡	768.3‡	68	14.4	82	SW			5		1		SW		Slight	Mod'ate W	Clear	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 35° 41′, W. 74° 54′		29.94‡	760.5‡	80	26.7	78	SW	5	2.2			8ks		E	0.08 in. or 2.0 mm	Swell	E	Squally	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 34° 32′, W. 75° 45′ †		30.15‡	765.8‡				SW			1		0			0	Smooth		Fair	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrowes, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	30.07	763.8	69.1	20.6	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.09	764.2	77.4	25.2	83	E	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.09	764.3	74.1	23.4	72	NE	.....	.....	5	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.15	765.8	75.0	23.9	82	NNE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.21	767.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.09	764.1	88.7	31.5	18	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.13	765.3	91.4	33.0	31	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	87.8	31.0	48	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	30.04	763.0	92.1	33.4	37	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.10	764.6	96.1	35.6	40	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Ivan Stoxir.
Cracow, I. R. Observatory	29.55	750.6	30.06	764.0	74.8	23.8	45	SW	.....	.....	3	.....	1	.....	.....	0	0	.....	.....
Eperies	29.19	741.4	29.95	760.6	61.5	16.4	87	W	11.9	5.3	.....	.....	9	.....	.....	0.024	0.6	Raining	Prof. Dr. Karlinski, Dir'r
Gratz	29.05	737.8	29.90	759.4	67.1	19.5	79	Calm	.....	.....	0	.....	8s;cs	.....	E	0.047	1.20	.....	Julius Mikolik.
Hermannstadt	28.84	732.6	30.04	762.9	72.5	22.5	62	SW	.....	.....	3	.....	5	.....	.....	0.059	1.5	.....	Andreas Rospini.
Kremsmünster	28.54	724.9	29.92	759.9	70.7	21.5	78	W	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Lemberg	28.81	731.7	30.14	765.5	58.3	14.6	92	WNW	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	Prof. C. Wagner.
Pola	28.86	733.0	29.81	757.2	68.2	20.1	67	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Dr. T Stanecki.
Szathmar	29.99	761.8	30.10	764.5	70.7	26.5	48	WSW	.....	.....	1	.....	1	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szegedin	29.51	749.5	29.98	760.9	71.6	22.0	69	SW	.....	.....	4	.....	7	.....	.....	0.503	12.9	Raining	Julius Csics, S. J.
Trieste	29.75	755.6	30.02	762.5	72.3	22.4	60	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Karl Stancel.
Vienna	30.02	762.5	30.15	765.7	76.3	24.6	55	W	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
.....	29.35	745.5	30.09	764.2	68.9	20.5	68	W	.....	.....	5	.....	1	.....	.....	0.008	0.2	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.78	756.4	29.88	758.9	55.0	12.8	.....	SSE	3	1.3	.....	.....	10	.....	.....	0.030	0.76	Raining	W. Boswell.
Ardrossan	29.93	760.2	29.95	760.7	58	14.4	.....	WNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.81	757.2	30.03	762.7	58.5	14.7	.....	W	7	3.1	.....	.....	9	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.04	763.0	58.5	14.7	.....	W	27	12.1	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	.....	.....	30.01	762.2	59.8	15.4	.....	W	24	10.7	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.61	752.1	30.01	762.2	63.4	17.4	.....	NW	.....	.....	3	.....	4	.....	.....	0.03	0.8	D. clouds.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	84.5	29.2	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.92	760.0	30.02	762.5	70.0	21.1	.....	WNW	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds.....	H. Todd.
Cardington	.....	.....	30.01	762.2	72.0	22.2	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E.	29.94	760.5	30.06	763.5	63.5	17.5	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper. R. E.
Donaghadee	29.96	761.0	30.00	762.0	58	14.4	.....	N	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.06	763.5	30.08	764.0	60	15.6	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.98	761.5	30.21	767.3	62.0	16.7	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.94	709.7	30.22	767.6	58.0	14.4	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	84	28.9	.....	Calm?	.....	.....	1?	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.03	762.7	60	15.6	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.7	30.00	762.0	72.8	22.7	.....	E	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.74	755.4	29.94	760.5	58.7	14.8	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	29.99	761.7	29.99	761.7	62	16.7	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	Drizzling.....	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.05	763.3	66.5	19.2	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff, for G.B.Airy.
Guernsey	29.96	761.0	30.18	766.6	59	15.0	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	Dr. S.E.Hoskins,F.R.S.
Helston	30.13	765.3	30.25	768.3	69	20.6	.....	NW	.....	.....	2	2c	.....	.....	.....	0.04	1.0	Fine.....	M. P. Moyle.
Holyhead	30.09	764.3	30.09	764.3	61	16.1	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.94	760.5	30.23	767.8	59.2	15.1	.....	W	.....	.....	4	.....	10	.....	.....	Blank	Blank	Foggy	J. Fisher.
Kew, Observatory	30.02	762.5	30.06	763.5	68.3	20.2	.....	W	15	6.7	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
Leicester, Museum	29.77	756.1	30.02	762.5	65.6	18.7	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.98	761.5	30.05	763.3	78	25.6	.....	NE	.....	.....	2	.....	3k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.77	756.1	29.86	758.4	63	17.2	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded..	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.03	762.7	85.5	29.7	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.84	757.9	30.03	762.7	68.1	20.1	.....	WNW	.....	.....	4	.....	7k	.....	W	0.096	2.44	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.51	749.5	30.02	762.5	66.6	19.2	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.05	763.3	68	20.0	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	30.08	764.0	30.16	766.1	68.3	20.2	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.09	764.3	30.21	767.3	62	16.7	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded....	Wm. Kennedy.
Saint Ann's Head	29.97	761.2	30.14	765.5	58	14.4	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.88	758.9	53.9	12.2	.....	S	7	3.1	.....	.....	10	.....	.....	.....	.....	Drizzling....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.74	755.4	29.80	756.9	58.4	31.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Serg't W. H.Lyne.
Sheffield	29.74	755.4	30.02	762.5	66.0	18.9	.....	SW	.....	.....	3	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.94	760.5	29.98	761.5	61.4	16.3	75	W	.....	.....	4	.....	6	.....	.....	0.020	0.51	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.02	762.5	60.4	15.8	.....	WSW	19	8.5	.....	.....	6	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.86	758.4	30.08	764.0	68.5	20.3	.....	SW	.....	.....	2-3	.....	2	.....	.....	.....	.....	Blue sky.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.20	767.1	30.21	767.3	63	17.2	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	W.Newcombe.
Valencia, Observatory	30.13	765.3	30.16	766.1	59.6	15.3	.....	SW	22	9.8	.....	.....	7	.....	.....	Blank	Blank	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.20	767.1	30.24	768.1	54.6	12.6	93	S	21.2	9.5	.....	0	0	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.92	760.0	40	4.4	79	S	.....	.....	2	.....	7k	.....	.....	0	0	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.93	760.2	64.0	17.8	.....	W	.....	.....	4	.....	6k	.....	.....	Blank	Blank	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.10	764.5	72.3	22.4	65	E	14.5	6.5	.....	0	4	.....	ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.88	758.9	47.1	8.4	78	SE	14	6.3	.....	.....	8	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 10′. E. 29° 05′	.....	.....	29.86‡	758.4‡	78	25.6	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. W. J. L. Wharton.
Agnes Wilson, N. 46° 15′, W. 23° 40′	.....	.....	30.34	770.6	61	16.1	.....	SE	.....	.....	2	.....	10	.....	.....	3	WNW	Overcast.....	Capt. H. W. Dyke.
Atmosphere, N. 40° 45′ W. 64° 15′	.....	.....	29.92	760.0	76	24.4	.....	SW	.....	.....	6	.....	10	.....	.....	6	SW	Thunder storm..	.....
Astarte, N. 59° 00′, W. 6° 20′ *	.....	.....	29.88‡	757.7‡	57	13.9	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. Parson.
Barque Commewyne, N. 32° 20′, W. 57° 50′	.....	.....	30.26	768.6	80.7	27.1	.....	ESE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. A. Buchan.
Theophane, S. 4° 10′, W. 17° 20′	.....	.....	30.05‡	763.3‡	79.5	26.4	.....	ENE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.16	664.4	29.88	758.9	68.4	20.2	97	SE	.....	.....	1	8s	1d	.....	.....	0.1	3.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San José the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.52	749.9	29.57	751.1	56.5	13.6	96	WNW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	29.77	756.2	29.79	756.7	57.4	14.1	65	W	.....	.....	7	.....	7	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	30.11	764.9	30.16	766.0	43.5	6.4	88	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.98	760.8	29.98	761.4	48.2	9.0	71	E	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.82	757.3	29.85	758.2	54.3	12.4	76	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.57	751.1	29.68	753.9	57.2	14.0	85	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.73	755.1	30.28	769.1	66.6	19.2	73	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.06	763.5	30.17	766.3	68.0	20	71	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.89	759.3	30.15	765.8	62.2	16.8	70	W	.....	.....	5	.....	10	.....	W	Inap.	Inap.	Sprinkling	Klein, Commandant.
Avignon, Normal School	30.05	763.2	30.18	765.2	79.9	26.6	45	N	.....	.....	3	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.67	753.6	30.21	767.4	69.6	20.9	63	WSW	.....	.....	1	.....	8kn	.....	W	0.004	0.1	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.91	759.8	30.17	766.4	71.4	21.9	66	W	.....	.....	2	.....	8	.....	W	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.39	746.4	30.26	768.7	67.6	19.8	76	W	.....	.....	1	.....	8	.....	SW	0.374	9.5	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.41	747.0	30.34	770.7	68.4	20.2	72	N	.....	.....	3	k	N	N	N	0	0	.....	Marlot, Director.
Bourges, Normal School	29.68	753.9	30.23	767.7	68.4	20.2	72	WSW	.....	.....	1	2ck	SSW	SSW	0	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.95	760.7	30.19	766.9	62.6	17.0	83	NNW	.....	.....	2	.....	10	.....	N	0.010	0.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.80	756.8	30.19	766.8	79.9	26.6	37	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	30.12	765.0	30.19	766.9	68.7	20.4	61	SW	.....	.....	1	.....	.....	.....	W	0	0	.....	Lair, Director.
Chartres, Normal School	29.66	753.4	30.22	767.6	68.2	20.1	79	WSW	.....	.....	2	.....	7	.....	W	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.21	767.2	68.7	20.4	62	SW	.....	.....	2	.....	2	WSW	WSW	0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.89	733.9	30.21	767.4	69.6	20.9	57	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.36	745.7	30.20	767.0	68.9	20.5	68	NW	.....	.....	3	.....	2ck	NW	NW	0.071	1.8	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.00	736.7	30.15	765.7	81.1	27.3	43	SW	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.48	748.7	30.23	767.7	70.5	21.4	63	NW	.....	.....	3	.....	5kn	NE	.....	0.035	0.90	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	30.10	764.6	30.32	770.1	64.0	17.8	78	WSW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.96	760.9	30.26	768.7	64.0	17.8	63	S	.....	.....	2	.....	8	.....	NW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.34	745.2	30.24	768.2	71.6	22	64	NW	.....	.....	1	.....	2kn	NW	NW	0.020	0.50	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.20	767.1	30.30	769.6	63.0	17.2	84	SW	.....	.....	3	.....	.....	.....	SW	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galsin, Director.
Marseilles, Observatory	29.85	758.1	30.11	764.8	77.4	25.2	55	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.20	741.6	30.22	767.5	67.6	19.8	55	W	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Barbier, Director.
Mont-Louis	25.09	637.4	30.41	772.4	64.0	17.8	49	NE	24.2	10.8	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nismes, Normal School	29.95	760.7	30.15	765.7	80.2	26.8	28	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.93	760.1	69.8	21.0	59	WSW	.....	.....	2	.....	3	.....	WSW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.78	578.5	.....	.....	56.3	13.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gen'l de Nansouty.
Perpignan	30.08	764.0	30.18	766.6	77.0	25.0	35	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	Hazy	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs.	25.44	646.1	.....	.....	48.2	9.0	97	NE	.....	.....	2	.....	8	.....	.....	0.126	3.2	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.23	768.1	30.31	769.9	68.2	20.2	68	W	.....	.....	1	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.11	764.9	30.20	767.1	64.4	18.0	76	W	.....	.....	1	.....	10	.....	NW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.18	766.5	30.21	767.3	66.2	19.0	75	SW	.....	.....	2	.....	8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.04	763.0	30.21	767.2	70.7	21.5	60	SW	.....	.....	2	.....	4	.....	W	0.004	0.1	.....	E. Renou, Director.
Tarbes, Normal School	29.17	740.8	30.22	767.5	68.0	20	81	NNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.57	751.0	30.30	769.5	72.0	22.2	58	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	30.07	763.8	30.27	768.8	66.2	19.0	68	WNW	.....	.....	2	.....	8	.....	W	0	0	.....	Cousin-Marquet.
Versailles, Observatory	29.72	754.8	30.21	767.3	69.4	20.8	53	WSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.53	750.0	30.22	767.6	74.7	23.7	52	NNW	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.63	752.5	30.23	767.8	72.7	22.6	54	NW	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	Ch. André, Director.
Nice	.....	.....	30.14	765.5	75.6	24.2	63	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.60	751.8	29.62	752.4	78.8	26.0	96	N	2.5	1 1	.....	5c; hs	.....	.....	.....	0	0	½ covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 6.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.5	30.04	763.0	65.1	18.4	62	W			4		5	W		0.039	1.0	Raining	Prof. Dr. Hoh.
Berlin	29.76	755.9	29.93	760.2	60.4	15.8	82	NW			4		10			0	0		Prof. Dr. Arndt.
Breslau	29.44	747.7	29.97	761.2	63.7	17.6	69	NW			7		5			0.073	1.85		Royal University Ob's'y.
Carlsruhe	29.74	755.3	30.16	766.0	67.6	19.8	67	SW			3		5	SW		0	0		Albert Sens.
Cassel	29.47	748.5	30.08	764.0	68.7	20.4	53	WNW			4		5	WNW		0	0		Dr. H. Möhl.
Crefeld	29.90	759.5	30.07	763.6	67.6	19.8	62	W			5		8			0.08	2.		Director Lose.
Emden			29.92	760.0	68.2	20.1	62	WNW			3		5			0.142	3.6		Prof. Dr. Prestel.
Frankfort on the Main	29.75	755.6	30.11	764.9	70.3	21.3		SW			2		8			0.160	3.8		Physical Society.
Freienwalde on the Oder	29.84	758.0	29.88	759.0	59.9	15.5	81	W			5		10ks	W		0.016	0.4	Smoky	Dr. Assmann.
Friedrichshafen	28.78	730.9	30.18	766.6	67.3	19.6	66	SW			3		5	SW		0	0		M. Wilhelm.
Hamburg	29.84	757.8	29.91	759.6	62.6	17.0	77	W			5		9ks;n			0.358	9.1	Squally	Captain F. Hegemann
Kiel	29.82	757.4	29.84	757.8	59.7	15.4	78	W			6		10			0.039	0.99		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.62	752.4	29.70	754.4	66.0	18.9	75	SW			5		4			0.004	0.1		Prof. E. Luther.
Köslin			29.70	754.4	55.9	13.3		W			6		5			0.646	16.4		H. Müller.
Leipsic Observatory	29.61	752.0	30.02	762.6	61.2	16.2	73	W			4		10	W		0.063	1.6	Foggy	Prof. Bruhns, Privy Counselor.
Memel	29 63	752.5	29.67	753.7	67.3	19.6	72	WSW			5		7ck;cs						Skalweit.
Munich (München)	28.38	720.8	30.26	768.5	61.5	16.4	68	W			2		9	SW		0.220	5.6	Rain-squalls	Dr. C. Larg.
Neufahrwasser	29.70	754.3	29.71	754.7	64.8	18.2	67	WSW			5		10			0.220	5.6		A. Lothes.
Posen	29.62	752.4	29.91	759.6	62.2	16.8	71	W			4		10			0.059	1.5		Dr. Magener.
Strassburg (in Alsace)	29.67	753.7	30.21	767.4	69.3	20.7	60	W			2		5	W		0.002	0.05		Imp. University Observatory.
Stuttgart	29.24	742.7	30.17	766.2	65.3	18.5	62	W			1		6	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.68	728.4	30.17	766.4	58.8	14.9	76	W	4	2			10		W	0.157	4.0	Light fog	T. Hopfner.
Wustrow	29.75	755.7	29.78	756.3	59.0	15.0	83	WSW			6		10s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at three, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.58	751.4	29.63	752.7	83.2	28.4	72	SSW	9.0	4.0			5	WNW		0	0	D. clouds	
Dersa	29.22	742.2	29.68	753.9	92.1	33.4	40	SW	10.5	4.7			4		WSW	0	0	D. clouds	
Bombay	29.67	753.6	29.71	754.6	82.1	27.8	79	NW	19.0	8.5			10		WNW	0.18	4.6	Overcast	
Poona	27.87	708.0	29.73	755.1	76.6	24.7	79	WNW					6			0.26	6.6	D. clouds	
Lahore	28.88	733.5	29.60	751.8	95.2	35.1	49	NE	3.4	1.5			3			0	0	Blue sky	
Belgaum	27.21	691.0	29.74	755.4	74.8	23.8	87	W	10.3	4.6			3	W	W	0	0	D. clouds	
Roorkee	28.70	728.9	29.59	751.6	76.5	24.9	95	Calm	1.9	0.8			10			0.60	15.2		
Agra	29.01	736.8	29.56	750.7	90.2	32.3	65	W								0	0		
Nagpur	28.64	727.5	29.69	754.1	75.2	24.0	91	Calm	3.9	1.7			9		NE	0.22	5.6	Gloomy	
Lucknow	29.20	741.6	29.57	751.0	86.2	30.1	92	SSW	2.0	0.9			8		ENE	0	0	D. clouds	
Allahabad	29.29	743.9	29.60	751.7	86.0	30.0	82	Calm	1.8	0.8			9		W	0.06	1.5	D. clouds	
Patna	29.39	746.5	29.57	751.1	88.8	31.6	73	Calm	0.4	0.2			6	S	S	0	0	D. clouds	
Hazaribagh	27.63	701.7	29.62	752.2	80.8	27.1	78	SE	4.6	2.1			10	W	SE	0	0	Thunder	
Cuttack	29.58	751.3	29.66	753.4	84.2	29.0	77	Calm	2.0	0.9			6			0	0	Drizzling	
Calcutta (Alipore)	29.62	752.4	29.64	752.9	77.5	25.3	83	WNW	10.0	4.5			10	SW	SW	0	0	Drizzling	
Goalpara	29.22	742.2	29.60	752.0	83.8	28.8	83	Calm	1.8	0.8			9			0	0	D. clouds	
Chittagong	29.61	752.1	29.71	754.6	78.9	26.1	92	E	3.8	1.7			10			0	0	Threatening	
Sibsagar	29.28	743.6	29.60	751.9	87.6	30.9	74	NW	2.6	1.2			6			0	0	D. clouds	
Jubbulpore	28.30	718.7	29.66	753.4	77.6	25.3	93	S	1.8	0.8			10		N	0.03	0.8	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,553 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.71	754.5	30.10	764.6	76.8	24.9	45	W	1.8	0.8	.....	.....	1	.....	.....	0	0	....	Prof. Giovanni Clodig.
Milan	29.59	751.5	30.09	764.3	81.0	27.2	37	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.99	761.7	30.10	764.4	77.7	25.4	53	SE	3.1	1.4	.....	.....	6	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.19	741.4	30.06	763.4	78.8	26.0	30	ESE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.95	760.7	30.13	765.4	72.1	22.3	67	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.22	716.9	30.06	763.4	73.4	23.0	42	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.05	763.2	30.10	764.4	75.2	24.0	61	NE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.85	758.1	30.10	764.5	80.6	27.0	31	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.02	762.5	30.10	764.6	78.6	25.1	55	W	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.93	760.3	30.10	764.6	80.2	26.8	60	WSW	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.80	756.8	30.04	763.1	77.9	25.5	38	NNW	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.19	741.3	30.02	762.6	82.2	27.9	61	NW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.93	760.2	30.11	764.9	80.6	27.0	17	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Padnotti.
Palermo	29.87	758.7	30.12	765.0	75.4	24.1	51	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.99	761.8	30.07	763.6	82.2	27.9	56	E	4.9	2.2	.....	.....	1	NNE	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.58	751.2	30.13	765.3	78.6	25.9	57	ESE	4.3	1.9	.....	.....	2	SE	.....	0	0	.....	Prof. } Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.89	759.2	80.9	27.2	73	SW	7.5	3.3	.....	.....	6s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.66	753.3	29.86	758.4	81.0	27.2	76	S	8.4	3.8	.....	.....	4s	.....	.....	0.070	1.78	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.80	756.9	29.87	758.7	79.8	26 6	85	SSE	2.0	0.9	.....	1cs	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.85	758.2	29.90	759 4	81.2	27.3	76	S	8.0	3.6	.....	.....	c	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.00	635.1	29.96	761.0	61.7	16.5	74	SW	.....	.....	2	.....	3	.....	SE	0	0	Clear	Prof. L. Perez.
Leon	24.39	619.5	30.01	762.2	63.3	17.4	73	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mexico, Central Obs'y	23.03	585.0	30.01	762.2	55.0	12.8	77	Calm	0	0	.....	2c	8k	.....	N	0	0	Covered	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	66 9	19.4	80	SW	.....	.....	1	1c	3k	NE	NE	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.89	759.2	29.90	759.5	79.5	26.4	88	Calm	.....	.....	0	5	0	S	.....	0	0	½ clouded	Prof. M. M. Chazaro.
San Luis Potosi	24.17	613.9	30.08	764.1	61.0	16.1	75	E	.....	.....	2	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.55	572.7	30.05	763.2	63.3	17.4	48	E	.....	.....	2	8c	0	E	.....	0	0	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	51.8	11.0	86	NE	3.6	1.6	.....	1c	0	NE	.....	0.09	2.2	Fine	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	78.6	25.9	85	SW	.....	.....	4	0	9	.....	NW	0.51	13.0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.09	764.2	30.09	764.2	62.6	17.0	.....	WSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	29.86	758.4	29.95	760.8	63.9	17.7	.....	SW	.....	.....	3	.....	.....	.....	.....	0.012	0.3	.....	
Helder	29.98	761.5	29.98	761.5	61.7	16.5	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.04	763.0	30.04	763.0	60.1	15.6	88	WSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	30.00	762.1	30.05	763.3	62.6	17.1	92	WSW	.....	.....	4	.....	8	.....	.....	0.008	0.2	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.69	754.0	29.74	755.4	56.5	13.6	80	NNW	15.2	6.8	.....	.....	10	.....	.....	0.079	2.0	.....	
Brönö	29.66	753.3	29.70	754.3	64.4	18.0	62	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.40	746.8	29.54	750.3	68.7	20.4	77	NNE	7	3	.....	.....	10	.....	.....	0.807	20.5	.....	
Tromsö	29.71	754.5	29.75	755.6	55.6	12.8	77	NE	11	5	.....	.....	9	.....	.....	0.063	1.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols.
The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.18	766.6	30.37	771.3	75.0	23.9	77	SE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.4	30.02	762.6	93.0	33.9	18	ENE	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.06	763.4	30.14	765.6	76.6	24.8	49	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.08	764.0	83.3	28.5	35	SSW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.32	770.1	30.39	771.9	76.6	24.8	71	SE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. H. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	NW	Blue sky	H. de O. C. e Athayde.
Mossamedes, Lower Guinea	.....	.....	30.00	762.1	65.3	18.5	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.95	760.7	77.4	25.2	.....	NE	.....	.....	3	.....	10	.....	.....	1	.....	Raining. 1½ hr's rain.	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.85	758.2	84.6	29.2	.....	SW	.....	.....	3	.....	0	.....	.....	2	SW	Blue sky	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given.
The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	747.1	29.82	757.5	65.8	18.8	69	W	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.32	744.7	29.72	754.9	72.7	22.6	46	W	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.46	748.2	29.69	754.1	71.2	21.8	46	SW	7	3	.....	.....	5ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.64	752.8	29.65	753.2	69.6	20.9	78	SE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.68	753.6	29.68	753.9	73.2	22.9	60	NE	7	3	.....	.....	10n;cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.7	29.78	756.5	80.4	26.9	60	Calm	0	0	.....	.....	7ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.71	754.7	29.73	755.2	80.6	27.0	94	S	9	4	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.72	742.3	29.74	755.5	72.3	22.4	73	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.45	747.9	29.63	752.7	100.4	38.0	21	SSE	18	8	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.81	757.2	29.83	757.7	63.9	17.7	90	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.39	721.1	29.69	754.2	99.3	37.4	29	S	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.91	759.7	29.83	757.6	92.5	33.6	26	SSE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.39	746.5	29.83	757.6	84.2	29.0	40	NW	0	0	.....	.....	2ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.56	750.7	29.80	757.0	82.2	27.9	53	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.85	733.4	29.79	756.6	74.5	23.6	31	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.52	749.7	29.73	755.2	92.7	33.7	29	NNE	9	4	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.24	717.2	29.69	754.2	87.4	30.8	44	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Teich, A. M.
Barnaul	29.13	739.8	29.60	751.9	68.5	20.3	63	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.24	742.8	29.52	749.7	73.9	23.3	69	WNW	7	3	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thunder-storm.	Physical Observatory.
Peking (China)	29.48	748.9	29.63	752.5	81.3	27.4	89	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Heavy rain.	
Vladivostock	29.34	745.2	29.44	747.7	66.6	19.2	92	SE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.73	755.1	29.82	757.3	68.1	14.5	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk. 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.05	763.2	30.15	766.8	74.3	23.5	59	SE	8.4	1.50	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.21	767.2	30.26	768.6	74.5	23.6	51	E	0.9	0.39	.....	2	6	NW	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.26	692.5	.....	.....	71.6	22.0	45	E	10.2	4.55	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.93	709.4	30.02	762.4	88.9	31.6	37	E	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.00	762.0	30.14	765.6	83.5	28.6	51	ESE	7.4	3.31	.....	3	4	W	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.27	743.4	30.13	765.4	74.5	23.6	56	NE	14.3	6.4	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.4	30.00	762.0	81.6	27.6	77	E	8.7	3.9	.....	1c	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.6	29.81	757.0	84.4	29.1	92	NNE	0	0	.....	.....	10n	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.8	30.05	763.2	83.3	28.5	48	E	26.7	11.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.90	759.4	29.99	761.7	80.2	26.8	75	SE	0	0	.....	k	4kn	SE	SE	0.591	15.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.76	755.8	29.80	756.8	75.6	24.2	.....	Calm	.....	.....	0	.....	4	•	.....	0	0	.....	
Umea	29.71	754.5	29.76	755.8	70.2	21.2	68	NE	.....	.....	4	.....	9	.....	.....	0.0 8	0.2	.....	
Hernosand	29.59	751.5	29.64	752.8	68.0	20.0	78	NE	.....	.....	6	.....	10	.....	.....	0.004	0.1	Raining ...	
Stockholm	29.30	744.1	29.47	748.6	66.2	19.0	77	E	.....	.....	4	.....	10	.....	.....	0.268	6.8	Light rain...	
Wisby	29.38	746.3	29.44	747.8	60.8	16.0	89	SSW	.....	.....	6	.....	10	.....	.....	0.189	4.8	Raining.....	
Sub-Series.																			
Upsala	29.39	746.6	29.48	748.8	65.1	18.4	88	ENE	7.6	3.4	.....	.....	9	NE	ESE	0.031	0.80	.....	Nils Ekhorn.
Naval Series.																			
Corvette Saga, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.82	732.1	30.21	767.4	67.1	19.6	60	NNE	.....	.....	1	.....	3	.....	.....	0	0	Clear.....	The Observatory.
Zurich	28.61	726.7	30.20	767.1	69.1	20.6	60	W	.....	.....	2	.....	8	.....	.....	0	0	Fair.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +4.3 mm.; Thermometer,—3.1 Cent.; Relative Humidity, —2 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.1	79.7	26.5	62	N	22	10.0	.....	.....	4	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.2	79.0	26.1	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.56	750.8	29.68	753.8	91.8	33.2	54	W	.....	.....	2	.....	2s	.....	W	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.61	752.1	29.67	753.6	61	16.1	82	W	6	2.7	.....	.....	10ks	.....	W	1.56	39.6	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.64	752.8	66	18.9	93	SW	6	2.7	.....	.....	10n	.....	SW	0.345	8.77	Cloudy.....	H J. Cundall, C. E
Cornwall, Ontario	29.76	755.9	29.94	760.5	58.8	14.9	80	N	.....	.....	1	0	4s	.....	.....	0.400	10.16	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.51	749.5	29.67	753.6	61	16.1	93	W	.....	.....	2	0	5ks	.....	.....	0	0	Fair.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.73	755.1	29.76	755.6	52	11.1	94	W	16	7.2	.....	.....	10n	.....	W	1.11	28.2	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.68	753.9	29.74	755.4	63.5	17.5	75	NW	10	4.5	.....	2k	0	.....	.....	0	0	Fair.....	Prof. Harrison.
*Fort Garry, Manitoba	29.07	738.4	29.87	758.7	56	13.3	93	S	16	7.2	.....	5k	5n	S	S	0.280	7.11	Heavy rain.	James Stewart.
Granton, Ontario	28.88	733.6	29.95	760.7	68	17.2	83	NE	.....	.....	2	.....	10n	.....	.....	0	0	Overcast....	James Grant.
*Halifax, N. S	29.62	752.3	29.73	755.1	61	16.1	97	SW	7	3.1	.....	.....	Fog	.....	.....	0.357	9.07	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.01	762.2	74.9	23.8	80	E	.....	.....	3	8ck	0	E	.....	0.001	0.03	Cloudy.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.65	753.1	29.97	761.2	64	17.8	65	NE	7	3.1	.....	2c	0	NW	.....	0.27	6.9	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.67	753.6	29.71	754.6	55.2	18.4	91	S	14	6.3	.....	0	Fog	.....	.....	0.29	7.4	Foggy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.76	755.9	29.95	760.7	61	16.1	65	NW	5	2.2	.....	0	5ck	.....	NW	0.83	21.1	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.38	746.2	30.07	763.8	57	13.9	70	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.01	762.2	62.7	17.1	66	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.95	760.7	65	18.3	94	NE	13	5.8	.....	10k	0	W	.....	0.04	1.0	Fair.....	H. Morgan.
Port Hastings, N. S	29.65	753.2	29.70	754.4	66.6	19.2	.....	SW	8	3.6	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.91	759.7	68	20.0	81	E	8	3.6	.....	5ck	0	NW	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.54	750.3	29.86	758.4	56	13.3	87	NW	.....	.....	1	0	0	.....	.....	0.37	9.4	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.62	752.3	30.07	763.8	57	13.9	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.69	754.1	29.74	755.4	61	16.1	85	NW	.....	.....	2	.....	8ks	.....	.....	0.63	16.0	Cloudy.....	Dr. Gove.
St. John, N. B	29.66	750.8	29.72	754.9	61	16.1	94	NW	7	3.1	.....	5k	0	.....	.....	0.02	0.5	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.00	762.0	63	17.2	78	NE	13	5.8	.....	2cs	0	.....	.....	0	0	Clear.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.72	729.5	29.97	761.2	61.3	16.3	83	NE	7	3.1	.....	1c	1s	NE	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.68	753.9	29.71	754.6	63	17.2	98	S	12	5.4	.....	.....	10n	.....	.....	0.25	6.3	Light rain..	T. C. Hill.
*Toronto, Ontario	29.64	752.8	30.02	762.5	64	17.8	64	E	10	4.5	.....	2cs	0	W	.....	0	0	Clear.....	Magnetic Observatory.
Windsor, N. S	29.66	753.4	29.76	755.9	68.5	20.3	90	SW	7	3.1	.....	.....	10n	.....	.....	0.16	4.1	Raining.....	Prof. John E. Oram.
Woodstock	28.92	734.6	29.94	760.5	64.8	18.2	75	NE	16	7.2	.....	8ck	4ks	E	NW	0	0	Cloudy.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.86	758.4	30.10	764.5	73.0	22.8	72	S	.....	.....	.....	10c	10s	.....	.....	0.01	0.3	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.71	754.4	29.92	760.0	66	18.9	84	N	3	1.3		5k	0	NW		0.00	2.3	Fair	
Alpena, Michigan	29.47	748.0	30.08	764.0	58	14.4	70	E	18	8.0		0	0			0.03	0.8	Clear	
Atcha, Aleutian Is., Alaska					51	10.6	100	Calm	0	0			10s;fg		Calm	0.11	2.8	Cloudy	
Atlanta, Georgia	28.80	731.5	29.83	758.9	78	25.6	77	S	9	4.0		10c	0	SW		0.10	2.5	Cloudy	
Atlantic City, New Jersey	29.84	757.9	29.85	758.2	69	20.6	100	SE	5	2.2			10s		NW	0.19	4.8	Cloudy	
Augusta, Georgia	29.75	755.6	29.94	760.5	79	26.1	78	SW	1	0.4		2ks	2s	NW	Calm	0	0	Fair	
Baltimore, Maryland	29.84	757.9	29.88	758.9	78	25.6	61	NW	4	1.8			10s		NW	0	0	Cloudy	
Barnegat, New Jersey	29.85	758.2	29.87	758.7	69	20.6	95	NE	6	2.7		2k	8s	W	W	0.07	1.8	Cloudy	
Bismarck, Dakota	28.09	713.5	29.94	760.5	61	16.1	83	W	16	7.2		2k	2s	NW	Calm	0.82	20.8	Fair	
Boerne, Texas	28.45	722.6	29.71	754 6	76	24.4	60	S	3	1.3		0	0			0	0	Clear	
Boise City, Idaho	27.20	690.9	30.16	766.1	60	15.6	55	SE	3	1.3		0	0			0	0	Clear	
Boston, Massachusetts	29.73	755.1	29.87	758.7	69	20.6	65	NW	15	6.7		1k	0	Calm		0.01	0.3	Clear	
Brackettville, Texas	25.74	720.0	29.72	754 9	79	26.1	62	E	4	1.8		0	0			0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.88	758.9	58	13.3	94	SE	8	3.6			10n		S	0.05	1.3	Light rain	
Brownsville, Texas	29.79	756.7	29.84	757.9	83	28.3	79	S	4	1.8		8cs	0	S		0	0	Fair	
Buffalo, New York	29.28	743.7	29.95	760.7	66	18.9	74	NE	10	4.5		5k	2s	SW	NE	0.03	0.8	Fair	
Burkes, Arizona					81	27.2	52	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.66	753.4	29.94	760.5	61	16.1	61	N	10	4.5		0	0			0.33	8.4	Clear	
Cairo, Illinois	29.53	750.0	29.90	759.4	75	23.9	90	SE	1	0.4			10n		SE	0.67	17.0	Light rain	
Campo, California	27.42	696.5	29.99	761.7	58	14.4	88	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.95	760.7	82	27.8	58	SW	18	8.0		10c	Haze	W		0	0	Cloudy	
Cape Henry, Virginia	29.86	758.4	29.88	758.9	80	26.7	74	SW	10	4.5		8cs	Haze	W	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	29.93	760.2	29.95	760.7	80	26.7	91	SW	12	5.4		5cs	0	SW		0	0	Fair	
Cape May, New Jersey	29.83	757.7	29.86	758.4	74	23.3	85	SE	8	3.6			10ks		W	0.01	0.3	Cloudy	
Castroville, Texas	29.08	738.6	29.75	755.6	79	26.1	74	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	29.88	758.9	29.94	760.5	81	27.2	78	W	6	2.7			10s			0	0	Cloudy	
Charlotte, North Carolina	29.07	738.4	29.83	757.7	80	26.7	74	SW	4	1.8		5c	Haze	W	Calm	0	0	Fair	
Chattanooga, Tennessee	29.14	740.1	29.89	759.2	80	26.7	74	SW	8	3.6		10cs	0	W		0	0	Cloudy	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	53	11.7	67	N	11	4.9		2ck	5ks	W	N	0	0	Cloudy	
Chicago, Illinois	29.23	742.4	29.89	759.2	69	20.6	75	NE	10	4.5			10s		NE	0	0	Cloudy	
Cincinnati, Ohio	29.25	742.9	29.86	758.4	75	23.9	81	SE	3	1.3			10n		SE	0.52	13.2	Light rain	
Cleveland, Ohio	29.18	741.1	29.86	758.4	73	22.8	76	E	4	1.8		5k	0	NE		0.01	0.3	Fair	
Coleman City, Texas	28.06	712.7	29.62	752.3	79	26.1	51	S	5	2.2		0	0			0	0	Clear	
Columbus, Ohio	29.04	737.6	29.83	757.7	73	22.8	91	SW	1	0.4			Fog		Calm	0.67	17.0	Foggy	
Concho, Texas	27.98	710.7	29.55	750.6	79	26.1	74	SW	6	2.7		0	0			0	0	Clear	
Corsicana, Texas	29.40	746.7	29.84	757.9	82	27.8	63	S	6	2.7		0	8ks		Calm	0	0	Cloudy	
Davenport, Iowa	29.32	744.7	29.94	760 5	64	17.8	73	NE	8	3.6		0	0			0	0	Clear	
Deadwood, Dakota	25.49	647.4			56	13.3	81	SW	1	0.4		0	5s		SW	0.42	10.7	Fair	
Decatur, Texas	28.68	728.5	29.76	755.9	90	32.2	63	SW	8	3.6		2c	2ks	Calm	Calm	0	0	Cloudy ?	
Denison, Texas	29.02	737.1	29.76	755.9	81	27.2	70	S	6	2.7			10ks		NE	0	0	Cloudy	
Denver, Colorado	24.94	633.5	30.16	766.1	60	15.6	77	N	8	3.6			10s		N	0	0	Cloudy	
Des Moines, Iowa	29.08	738.6	29.92	760.0	66	18.9	84	E	2	0.9			10s		Calm	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.26	743.2	29.90	759.4	67	19.4	84	NE	7	3.1			10s		E	0.99	25.1	Cloudy	
Dodge City, Kansas	27.37	695.2	29.55	750.6	70	21.1	90	E	12	5.4			10s		Calm	0	0	Cloudy	
Dubuque, Iowa	29.29	744.0	29.96	761.0	63	17.2	72	NE	4	1.8		8k	0	NE		0	0	Fair	
Duluth, Minnesota	29.38	746.2	30.04	763.0	59	15.0	70	NE	10	4.5		2cs	5s	NE	Calm	0	0	Cloudy	
Eagle Pass, Texa	29.05	737.9	29.74	755.4	81	27.2	67	SE	2	0.9		0	0			0	0	Clear	
Eastport, Maine	29.69	754.1	29.76	755.9	60	15.6	82	NW	11	4.9			10s		NW	0.93	23.6	Cloudy	
Edinburg, Texas					82	27.8	79	S			4	5c	5s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.19	665.2			73	22.8	59	W	6	2.7		5k	0	W		Inap.	Inap.	Fair	
Erie, Pennsylvania	29.21	741.9	29.88	758.9	71	21.7	80	NE	11	4.9		1k	0	NE		0	0	Clear	
Escanaba, Michigan	29.44	747.5	30.08	764.0	58	14.4	64	NE	11	4.9		0	0			0	0	Clear	
Florence, Arizona	28.37	720.6	29.97	761.2	84	28.9	57	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.92	709.2			57	13.9	81	NW	17	7.6		0	1s		NW	1.07	27.2	Clear	
Fort Davis, Texas	25.17	639.3	30.13	765.3	69	20.6	52	SW	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.32	744.7	29.82	757.4	77	25.0	82	N	4	1.8			10s		Calm	0.20	5.1	Cloudy	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	75	23.9	48	SE	2	0.9		2ck	0	Calm		0	0	Clear	
Fort Griffin, Texas	28.61	726.7	29.79	756.7	84	28.9	50	N	3	1.3			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.50	698.5			60	15.6	81	Calm	0	0		0	0			0.89	22.6	Clear	
Fort McKavett, Texas	27.64	702.0	29.44	747.8	79	26.1	54	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.65	727.7	29.69	754.1	78	25.6	73	N	12	5.4			10c		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.04	712.2			60	15.6	82	W	14	6.3		0	1s		W	0.08	2.0	Fair	
Fort Verde, Arizona					67	19.4	64	NW			1	0	0			0.03	0.8	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.14	714.7	29.61	752.1	83	28.3	50	S	3	1.3		0	0			0	0	Clear	
Galveston, Texas	29.85	758.2	29.89	759.2	83	28.3	79	SW	13	5.8			10ks		SW	0	0	Cloudy	
Graham, Texas	28.76	730.5	29.74	755.4	84	28.9	54	Calm	0	0			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.31	744.5	29.93	760.2	69	20.6	65	E	10	4.5		2k	0	E		0	0	Fair	
Helena, Montana																			
Henrietta, Texas	28.58	733.5	29.75	755.6	84	28.9	61	NE	4	1.8		0	5s		Calm	0	0	Fair	
Indianapolis, Indiana	29.10	739.1	29.84	757.9	69	20.6	88	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Indianola, Texas	29.88	758.9	29.90	759.4	83	28.3	79	S	20	8.9		5cs	0	W		0	0	Fair	
Jacksboro, Texas	28.78	731.0	29.83	757.7	85	29.4	46	SE	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	29.99	761.7	30.01	762.2	81	27.2	78	SW	3	1.3		2cs	0	W		0.40	10.2	Fair	
Keokuk, Iowa	29.29	744.0	29.88	758.9	67	19.4	74	E	8	3.6		5c	0	W		0.12	3.0	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	83	28.3	75	SE	8	3.6		5k	0	E		0	0	Fair	
Kittyhawk, North Carolina	29.85	758.2	29.87	758.7	79	26.1	87	SW	14	6.3		2c	5s	W	SW	0	0	Fair	
Knoxville, Tennessee	28.94	735.1	29.90	759.4	74	23.3	86	E	4	1.8			10s		NE	0.09	2.3	Cloudy	
La Crosse, Wisconsin	29.27	743.4	29.99	761.7	59	15.0	76	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	67	19.4	69	Calm	0	0		1ck	1s	SW	Calm	0	0	Clear	
Laredo, Texas	29.41	747.0	29.73	755.1	85	29.4	44	SE	2	0.9		0	0			0	0	Clear	
Leavenworth, Kansas	29.05	737.9	29.85	758.2	72	22.2	85	NE	3	1.3		8ck	0	NE		0.10	2.5	Fair	
Little Rock, Arkansas	29.54	750.3	29.88	758.9	78	25.6	91	NE	4	1.8		0	8ks		Calm	0	0	Cloudy	
Los Angeles, California	29.59	751.6	29.92	760.0	61.0	16.1	88	W	2	0.9			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.31	744.6	29.84	757.9	75	23.9	86	S	2	0.9			10ks;s		sw;Calm	0.63	16.0	Cloudy	
Lynchburg, Virginia	29.21	741.9	29.85	758.2	79	26.1	69	NW	1	0.4			10s		Calm	0	0	Cloudy	
Madison, Wisconsin	28.99	736.3	29.95	760.7	60	15.6	82	NE	6	2.7			10s		NE	0	0	Cloudy	
Marquette, Michigan	29.40	746.7	30.09	764.3	58	14.4	70	N	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.25	717.5	29.90	759.4	82	27.8	52	SW	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	29.54	750.3	29.86	758.4	79	26.1	87	E	2	0.9		5cs	0	Calm		0.27	6.9	Fair	
Milwaukee, Wisconsin	29.24	742.7	29.94	760.5	63	17.2	89	NE	13	5.8			10s		NE	0.01	0.3	Cloudy	
Mobile, Alabama	29.89	759.2	29.93	760.2	81	27.2	83	S	7	3 1			10s		Calm	0.73	18.5	Cloudy	
Montgomery, Alabama	29.74	755.4	29.96	761.0	79	26.1	86	S	4	1.8		7k	2ks	S	S	0.78	19.8	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.90	734.0	29.83	757.7	77	25.0	77	Calm	0	0	.....	5k	f	SW	.. ..	0.26	6.6	Fair	
Mt. Washington, N. H.	28.70	602.0	30.06	763.5	41	5.0	100	NW	43	19.2	.....	.....	Fog	.....	NW	0.90	22.9	Foggy	
Nashville, Tennessee	29.36	745.7	29.87	758.7	78	25.6	86	Calm	0	0	.....	.....	10s	.....	Calm	0.34	8.6	Cloudy	
New Haven, Connecticut	29.76	755.9	29.87	758.7	72	22.2	76	N	10	4.5	.....	0	5ks	.....	SW	0.15	3.8	Fair	
New London, Connecticut	29.82	757.4	29.87	758.7	71	21.7	80	NE	4	1.8	.....	3ck	7n	NW	N	0.01	0.3	Light rain	
New Orleans, Louisiana	29.86	758.4	29.91	759.7	82	27.8	75	S	10	4.5	.....	5c	2s	Calm	Calm	1.01	25.7	Fair	
Newport, Rhode Island	29.82	757.4	29.87	758.7	71.5	21.9	69	NW	8	3.6	.....	5k	0	W	.....	Inap.	Inap.	Fair	
New York, New York	29.70	754.4	29.87	758.7	75	23.9	76	N	12	5.4	.....	5k	Haze	N	Calm	0	0	Fair	
Norfolk, Virginia	29.84	757.9	29.90	759.4	84	28.9	61	SW	9	4.0	.....	.....	10s	.....	NW	0	0	Cloudy	
North Platte, Nebraska	27.09	688.1	29.55	750.6	67	19.4	93	S	16	7.2	.....	2k	5s	S	S	0	0	Cloudy.	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	55.0	12.8	96	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.80	731.5	29.85	758.2	68	20.0	84	NE	3	1.3	.....	.....	10s	....	SW	0.12	3.0	Cloudy	
Oswego, New York	29.68	753.9	30.00	762.0	62	16.7	72	NE	14	6.3	.....	0	0	.....	.....	0.12	3.0	Clear	
Pembina, Dakota	29.61	736.8	29.82	757.4	54	12.2	93	SE	18	8.0	.....	.....	10n	.....	Calm	0.06	1.3	Light rain	
Philadelphia, Pa	29.82	757.4	29.86	758.4	74	23.3	86	NE	4	1.8	.....	2k	5s; fg	W	NE; Calm	0.75	19.1	Cloudy	
Phœnix, Arizona	28.62	726.9	30.31	769.9	84	28.9	54	W	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.03	458 0	30.24	768.1	36	2.2	53	NE	18	8.0	.....	8ck	0	NW	.....	0.32	8.1	Fair	
Pilot Point, Texas	29.14	740.1	29.93	760.2	88	31.1	69	SE	3	1.3	.....	0	0	.....	....	0	0	Clear	
Ploche, Nevada	.....	.....	.....	.....	65	18.3	58	W	2	0.9	.....	0	8s	.....	W	0.06	1.5	Fair	
Pittsburg, Pennsylvania	29.08	738.6	29.85	758.2	70	21.1	90	E	4	1.8	.....	0	Fog	.....	Calm	1.04	26.4	Clear	
Port Huron, Michigan	29.28	743.7	29.92	760.0	66	18.9	79	NE	16	7.2	.....	5k	0	W	.....	0	0	Fair	
Portland, Maine	29.79	756.7	29.84	757.9	65	18.3	68	NW	8	3.6	.....	0	0	.....	.....	0.15	3.8	Clear	
Portland, Oregon	29.95	760.7	30.02	762.5	62.8	16.8	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.80	629.9	30.16	766.1	63	17.2	72	E	.....	.....	1	1c	0	Calm	.....	0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	82	27.8	75	SE	9	4.0	.....	2ck	2ks	SW	Calm	0	0	Fair	
Red Bluff, California	29.61	749.5	29.86	758.4	68	20.0	42	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.66	753.1	29.85	758.2	81	27.2	74	SE	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Rochester, New York	29.38	746.2	29.98	761.5	64	17.8	73	E	13	5.8	.....	5k	0	E	.....	0	0	Fair	
*Roseburg, Oregon	29.45	748.0	30.01	762.2	58	14.4	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.78	756.4	29.88	759.4	62	16.7	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.87	758.7	70	21.1	90	NE	12	5.4	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
St. Marks, Florida	30.00	762.0	30.02	762.5	78	25.6	95	W	2	0.9	.....	4ck	4s	Calm	Calm	0.21	5.3	Fair	
St. Paul, Minnesota	29.12	739.6	29.92	760.0	60	15.6	70	E	12	5.4	.....	8ck	0	SE	.....	0	0	Fair	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	66	18.9	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.18	741.2	29.92	754.0	81	27.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.86	758.4	29.94	760.5	64	17.8	89	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.23	742.4	29.87	758.7	73	22.8	85	NE	16	7.2	.....	2k	8ks	NE	NE	0.07	1.8	Cloudy	
Sandy Hook, New Jersey	29.84	757.9	29.86	758.4	73	22.8	85	NE	10	4.5	.....	2ck	2ks	W	W	0.47	11.9	Fair	
San Francisco, California	29.87	758.7	29.93	760.2	54	12.2	96	W	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	61	16.1	82	Calm	0	0	.....	10ck	0	Calm	.....	0.36	9.1	Cloudy	
Savannah, Georgia	29.89	759.2	29.98	761.5	80	26.7	82	W	7	3.1	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Shreveport, Louisiana	29.62	752.3	29.82	757.4	82	27.8	75	S	2	0.9	.....	0	8ks	.....	E	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.95	760.7	29.98	761.5	82	27.8	91	W	7	3.1	.....	8cs	0	NW	....	0	0	Cloudy	
Socorro, New Mexico	25.40	645.2	29.46	748.3	71	21.7	62	NE	2	0.9	.....	8ck	2s	Calm	Calm	0	0	Cloudy	
Springfield, Ill	29.27	743.4	29.93	760.2	67	19.4	74	NE	4	1.8	.....	0	1s	.....	N	Inap	Inap.	Clear	
Springfield, Massachusetts	29.77	756.1	29.89	759.2	71	21.7	71	N	7	3.1	.....	2c	0	W	.....	0.01	0.3	Fair	
Stockton, Texas	26.88	682.7	29.88	758.9	75	23.9	4	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.84	757.9	29.89	759.2	63	17.2	89	NW	9	4.0	.....	.....	10s; fg	.....	NW	0.16	4.1	Foggy	
Toledo, Ohio	29.23	742.4	29.89	759.2	66	18.9	89	NE	8	3.6	.....	.....	10ks	.....	NE	0.02	0.5	Cloudy	
Tucson, Arizona	27.45	697.2	30.00	762.0	83	28.3	56	Calm	0	0	.....	5c	0	Calm	.....	0	0	Clear	
Umatilla, Oregon	29.64	752.8	30.12	765.0	63.0	17.2	67	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.93	734.8	29.71	754.6	80	26.7	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.64	752 8	29.88	758.9	78	25.6	86	SE	5	2.2	.....	5cs	2s	Calm	SE	0	0	Fair	
Virginia City, Montana	24.41	620.0	29.89	759.2	54	12.2	67	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.47	748.5	29.93	760.2	63	17.2	62	SE	1	0.4	.....	1c	0	Calm	.....	0	0	Clear	
Washington, D. C.	29.76	755.9	29.86	758.4	76	24.4	73	N	5	2.2	.....	.....	0s	.....	W	0.04	1.0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	37	S	.....	.....	1	0	0	....	.....	0	0	Clear	
Wilmington, N. Carolina	29.87	758.7	29.94	760.5	80	26.7	82	SW	8	1.3	.....	8c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.76	652.8	30.06	763.5	58	14.4	37	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.82	757.4	29.86	758.4	70	21.1	84	N	14	6.3	.....	5ck	2ks	SW	SW	0	0	Cloudy	
Yankton, Dakota	28.67	728.2	29.91	759.7	62	16.7	88	S	3	1.3	....	.....	10s	.....	S	0	0	Cloudy	
Yuma, Arizona	29.64	752.8	29.79	756.7	84	28.9	37	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.19	639.8	.....	.....	66.5	19.2	82	Calm	.....	.....	0	.....	9ks	.....	.....	0.01	0.3	.....	Thomas Herran.
Navassa, W. I	29.85	758.2	29.93	760.2	80	26.7	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.00	762.0	30.01	762.2	80	26.7	87	E	.....	.....	1	.....	10n	E	.....	1.000	25.4	Rainy	O. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.60 in., or 66.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known. *Taken twenty-five minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡	.....	.....	82	27.8	91	SW	10	4.5	.....	.....	10	.....	SW	0	0	.....	.....	Threat'ing..	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.87‡	758.7‡	.....	.....	79.5	26.4	86	Calm	.....	.....	0	.....	2s	.....	E	0	0	.....	.....	Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.94‡	760.5‡	.....	.....	59	15.0	94	SSW	.....	.....	2	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy	
Alliance, N. 54° 08′, E. 4° 17′	29.94‡	760.5‡	.....	.....	60	15.6	76	NW	.....	.....	2–3	.....	9	.....	NW	.....	.....	.....	.....	Overcast	
Ashuelot, Yokohama, Japan	29.85‡	758.2‡	.....	.....	81	27.2	87	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Colorado New York, N. Y.	29.83‡	757.7‡	.....	.....	73	22.8	85	N	6	2.7	.....	.....	5	.....	NNE	0.02	0.5	.....	.....	Clearing	
Constellation, Off Portland, Maine	29.86‡	758.4‡	.....	.....	60.3	15.7	76	NW	.....	.....	3	.....	2	.....	Calm	Heavy	Heavy	Long	SSE	Clear	
Constitution, N. 40° 28′, W. 73° 53′	29.87‡	758.7‡	.....	.....	70	21.1	90	NE	.....	.....	3	.....	3	.....	NE	.....	.....	Smooth	.....	Clear	
Enterprise, Cronstadt, Russia	29.67‡	753.6‡	.....	.....	65	18.3	100	NE	.....	.....	3	.....	10	.....	SSE	Blank	Blank	.....	.....	Cloudy	
Essex, Buenos Ayres, Argentine Rep., S. A.	30.15‡	765.8‡	.....	.....	50	10.0	86	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	.....	
Franklin. Norfolk, Va.	29.92‡	760.0‡	.....	.....	80	26.7	74	WSW	9.6	4.3	.....	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Hartford S. 31° 30′, W. 47° 50′	30.07‡	763.8‡	.....	.....	63	17.2	62	SSW	.....	.....	4	.....	10	.....	S	0.05	1.3	Mod'ate	S	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.92‡	760.0‡	.....	.....	63	17.2	78	W	0	0	.....	.....	0?	.....	NW	.....	.....	.....	.....	Cloudy?	
Kearsarge, St. Johns, New Foundland	30.02‡	762.5‡	.....	.....	65	18.3	84	W	.....	.....	1	.....	8	.....	W	.....	.....	.....	.....	Fair	
Michigan, Lake Huron	29.93‡	760.2‡	.....	.....	65.5	18.6	81	NNE	.....	.....	6	.....	5	.....	NNE	.....	.....	Mod'ate	NNE	Fair	
Monocacy. Shanghai, China	29.60‡	751.8‡	.....	.....	83	28.3	96	NNE	.....	.....	1	.....	8	.....	NNE	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	29.88‡	758.9‡	.....	.....	82	27.8	91	NE	.....	.....	0–1	c	.....	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	29.95‡	760.7‡	.....	.....	79	26.1	91	W	8	3.6	.....	.....	8	.....	WNW	0	0	.....	.....	Fair	
Onward, Callao, Peru†	29.95‡	760.7‡	.....	.....	61	16.1	88	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.60‡	751.8‡	.....	.....	82	27.8	87	ENE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	80	26.7	82	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	61	16.1	88	SSE	4	1.8	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Boston, Mass.	29.88‡	758.9‡	.....	.....	70	21.1	70	NNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Powhatan, Navy Yard, League Isl., Pa.	29.84‡	757.9‡	.....	.....	75	23.9	86	Calm	.....	.....	0	.....	10	.....	Calm	0.40	10.2	.....	.....	Cloudy	
Quinnebaug, Constantinople, Turkey	29.86‡	758.4‡	.....	.....	78	25.6	73	NE	.....	.....	5	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Ranger, Amoy, China	29.69‡	754.1‡	.....	.....	89	31.7	83	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Mod'ate	SSE	D. clouds	
Richmond, Yokohama, Japan	29.85‡	758.2‡	.....	.....	83	28.3	83	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.84‡	757.9‡	.....	.....	80	26.7	96	SE	.....	.....	2	.....	5	.....	E	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	29.88‡	758.9‡	.....	.....	77	25.0	77	N	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Saratoga, Gardner'sBay, LongI'd., N.Y.	29.87‡	758.7‡	.....	.....	72	22.2	??	N	.....	.....	1	.....	8	.....	E	Light	Light	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.87‡	758.7‡	.....	.....	75	23.9	90	NE	8	1.3	.....	.....	10	.....	NW	0.49	12.4	.....	.....	Cloudy	
Trenton, N. 54° 13′, E. 4° 49′	29.96‡	761.0‡	.....	.....	58	14.4	88	WNW	.....	.....	4	.....	10	.....	WNW	0	0	Heavy	N;W	Cloudy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.92‡	760.0‡	.....	.....	60	15.6	94	WNW	.....	.....	2	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, Delaware Breakwater, Del.	29.86‡	758.4‡	.....	.....	73	22.8	95	SW	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	29.24‡	742.7‡	.....	.....	69	20.6	65	NW	7	3.1	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wyoming, N. 37° 12′, E. 23° 37′	29.84‡	757.9‡	.....	.....	83	28.3	71	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	N	Clear	
Wachusett, New Orleans, La	29.92‡	760.0‡	.....	.....	81	27.2	87	SSW	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 27° 46′, W. 115° 18′..†		29.92‡	760.0‡	65	18.3	84	NW			3		7		NW	0	Mod'ate	SSE	Foggy	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 20° 13′, W. 171° 39′		30.02‡	762.5‡				SE			6				W		Heavy	SE		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 42° 11′, W. 186° 27′..†		30.28‡	769.1‡	62	16.7	83	W			2		8s			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 47° 14′, E. 179° 48′..†		30.26‡	768.6‡	54	12.2	100	E			2		mist;f'g		E	Slight	Smooth	E	Rain & fog	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.

S.S. Baltimore																			Capt. H. Andresen.
S.S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipsig, Capt. F. Peifer,																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 57′, W. 34° 35′		30.29‡	769.4‡				NE			4		8		NNE		4	NW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipsig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 42° 39', W. 56° 26'		30.01‡	762.2‡	72	22.2	85	SW			4		3		SW	Light	Mod'ate	W	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N 37° 20', W 73° 56'		29.87‡	758.7‡	78	25.6	95	SSW	8	3.6			8ks		SW	0	Swell	S		Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N 36° 35', W 71° 20' †		30.03‡	762.7‡				SW			1		2		W	0	Smooth	WSW	Fair	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

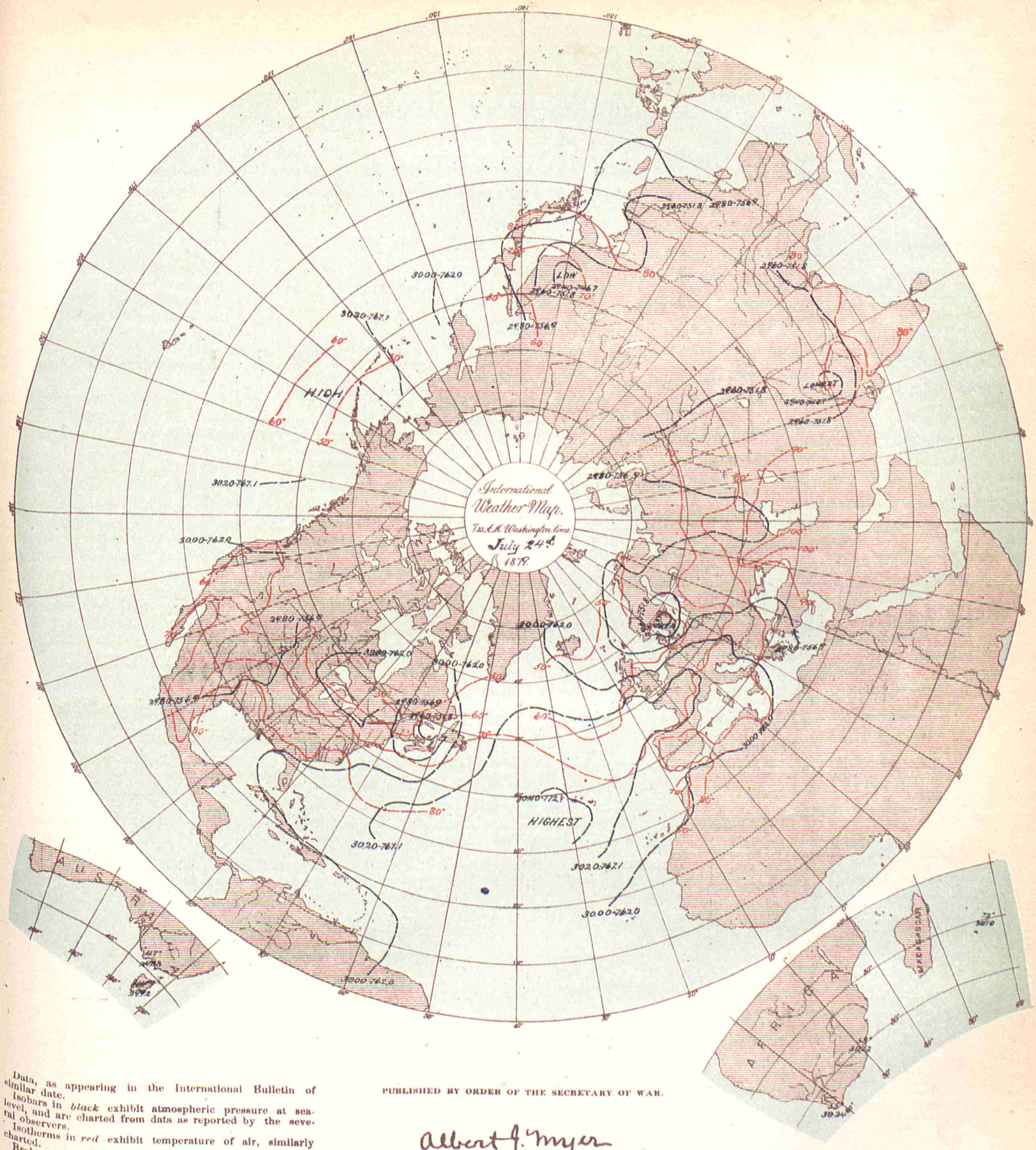
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.07	763.8	70.2	21.2	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.06	763.5	81.7	27.6	73	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.04	763.1	76.6	24.8	69	NE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Tourillere.
La Calle	.....	.....	30.11	764.7	73.9	23.3	80	NE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.18	766.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.6	93.2	34.0	19	NNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.08	764.1	92.7	33.7	33	SW	.....	.....	1	.....	0	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	.....	.....	92.5	33.6	28	WSW	.....	.....	6	.....	8	.....	.....	Inap.	Inap.	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.01	762.3	99.0	37.2	29	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.05	763.2	99.1	37.3	25	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 390? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.57	751.1	30.10	764.5	77.7	25.4	44	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.18	741.2	29.93	760.2	67.3	19.6	67	WNW	14.1	6.3	.....	.....	9	.....	.....	0.142	3.6	Thunder-storm.	Prof. Dr. Karlinski, Dir.
Eperies	29.06	738.0	29.91	759.6	68.0	20.0	79	Calm	.....	.....	0	.....	9s	.....	.....	0.199	5.05	.....	Julius Mikolik.
Gratz	28.84	732.6	30.05	763.3	73.4	23.0	58	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.61	726.6	29.99	761.8	70.2	21.2	82	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.76	730.4	30.05	763.3	71.1	21.7	70	WNW	.....	.....	2	.....	4	.....	.....	0.315	8.0	.....	Prof. C. Wagner.
Lemberg	28.90	734.0	29.85	758.2	67.3	19.6	66	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.98	761.6	30.10	764.4	79.7	26.5	57	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.56	750.8	30.01	762.2	73.4	23.0	52	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.79	756.7	30.06	763.5	74.1	23.4	61	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.01	762.2	30.11	764.8	80.6	27.0	61	NNW	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.35	745.5	30.09	764.2	74.7	23.7	51	W	.....	.....	4	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.78	756.4	29.87	758.7	58.4	14.7	.....	SW	10	4.5	.....	.....	6	.....	.....	0.010	0.25	Showery.....	W. Boswell.
Ardrossan	29.93	760.2	29.95	760.7	56	13.3	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.78	756.4	30.00	762.0	59.9	15.5	.....	SW	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.05	763.3	59.4	15.2	.....	W	16	7.2	.....	.....	6	.....	.....	.....	.....	D. clouds.....	John Hartnup.
Bolton (Sharples)	.....	.....	30.04	763.0	57.6	14.2	.....	W	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.64	752.5	30.03	762.7	59.9	15.5	.....	NW	.....	.....	2	.....	10	.....	.....	0.01	0.3	Overcast.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	83.5	28.6	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.99	761.7	30.09	764.3	62.8	17.1	.....	W	.....	.....	1	.....	7	.....	.....	0	0	D. clouds.....	H. Todd.
Cardington	.....	.....	30.06	763.5	65.0	18.3	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.98	761.5	30.11	764.8	64.5	18.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	J. Carmell, Sapper, R. E.
Donaghadee	29.95	760.7	29.99	761.7	59	15.0	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.09	764.3	30.12	765.0	62	16.7	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	¼ clouded...	J. Costello.
Falmouth, Observatory	29.95	760.7	30.18	766.6	61.6	16.4	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	27.86	707.6	30.15	765.5	67.0	19.4	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	81	27.2	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.99	761.7	60.5	15.8	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.99	761.7	30.04	763.0	74.6	25.7	.....	E	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.73	755.1	29.93	760.2	58.8	14.9	.....	WSW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	D. G. Maclean. [C.
Great Yarmouth	30.05	763.3	30.05	763.3	59	15.0	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.93	760.2	30.10	764.5	61.9	16.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.95	760.7	30.17	766.3	61	16.1	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S.E.Hoskins,F.R.S.
Helston	30.12	765.0	30.24	768.1	64	17.8	.....	SW	.....	.....	2	.....	8ck	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.06	763.5	30.07	763.8	61	16.1	.....	SW	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.94	760.5	30.23	767.8	59.5	15.3	.....	WNW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	30.07	763.8	30.11	764.8	61.1	16.2	.....	SW	8	3.6	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.80	756.9	30.06	763.5	60.5	15.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.93	760.2	30.01	762.2	78	25.6	.....	E	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.75	755.6	29.84	757.9	62	16.7	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.05	763.3	84.0	28.9	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.88	758.9	30.07	763.8	66.7	19.3	.....	NW	.....	.....	3	.....	7k	.....	W	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.55	750.6	30.07	763.8	62.2	16.8	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.10	764.5	61	16.1	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	30.08	764.0	30.15	765.8	62.8	17.1	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds ...	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.04	763.0	30.16	766.1	62	16.7	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
Saint Ann's Head	29.95	760.7	30.12	765.0	57	13.9	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.83	757.7	57	13.9	.....	SW	16	7.2	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.82	757.4	29.88	758.9	87.4	30.8	.....	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	29.77	756.1	30.04	763.0	63.8	17.7	.....	SW	.....	.....	2	.....	7	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	61.8	16.6	77	W	.....	.....	5	.....	3	.....	.....	0.100	2 54	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.04	763.0	57.8	14.3	.....	SW	16	7.2	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.91	759.7	30.12	765.0	60.3	15.7	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.16	766.1	30.17	766.3	66	18.9	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	30.07	763.8	30.10	764.5	60.3	15.7	.....	WSW	16	7.2	.....	.....	6	.....	.....	.....	.....	D. clouds ...	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.20	767.1	30.24	768.1	62.8	17.1	77	S	8.1	3.6	.....	0	1	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.02	762.5	39	3.9	.....	SE	.....	.....	2	.....	0	.....	.....	0.03	0.8	Starlight.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.93	760.2	63.1	17.3	.....	W	.....	.....	4	.....	5k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.10	764.6	72.2	22.3	61.8	ESE	11.0	4.9	.....	6	2	NW	ESE	0	0	Fine.....	C. Meldrum.
Melbourne, Observatory	29.96	761.0	30.05	763.3	47.1	8.4	90	SE	9	4.0	.....	.....	8	E	.....	0	0	Fine.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.																Sea or swel Height scale 0—9	Sea or swel Direction from—		
H. M. S. "Fawn," N. 41° 10'. E. 29° 05'	.....	.....	29.96‡	761.0‡	75	23.9	.....	ENE	.....	.....	6	.....	3	.....	.....	.....	.....	Squally.....	Capt. W. J. L. Wharton.
Agnes Wilson, N. 47° 50', W. 19° 20'	.....	.....	30.02	762.5	65	18.3	.....	WSW	.....	.....	4	.....	10	.....	.....	4	SSW	Misty.....	Capt. H. W. Dyke.
Atmosphere, N. 41° 00' W. 60° 05'	.....	.....	30.06	763.5	73	22.8	.....	WSW	.....	.....	5	.....	10	.....	.....	6	SW	Raining	.....
Astarte, N. 59° 30', W. 2° 30'..... *	.....	.....	29.86‡	758.4‡	56.7	13.7	.....	SSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Parson.
Barque Commewyne, N. 34° 16', W. 56° 40'	.....	.....	30.33	770.4	80	26.7	.....	ESE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. A. Buchan.
Theophane, S. 2° 20', W. 18° 55'	.....	.....	30.06‡	763.5‡	80	26.7	.....	ESE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. Greig.
S. S. Amandu	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.18	665.0	29.90	759.4	66.2	19.0	93	NE	.....	.....	1	2ck	.....	.....	.....	0.1	3.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.70	754.4	29.75	755.6	58.6	14.8	75	WNW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.
Fanöe	29.89	759.2	29.91	759.7	59.9	15.5	77	W	.....	.....	6	.....	7	.....	.....	.....	.....	.....
Godthaab (Greenland)	30.05	763.3	30.10	764.4	46.0	7.8	79	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.84	757.8	29.88	758.9	51.8	11.0	63	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.68	752.5	29.66	753.4	56.5	13.6	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....
Vestervig	29.69	754.2	29.80	757.0	58.5	14.7	78	W	.....	.....	6	.....	7	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.66	753.4	30.21	767.4	68.0	20	69	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.06	763.4	30.17	766.2	70.5	21.4	55	N	.....	.....	3	.....	5	.....	E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.90	759.5	30.15	765.9	64.2	17.9	56	WNW	.....	.....	3	.....	.....	.....	W	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.02	762.4	30.10	764.4	84.6	29.2	39	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.63	752.5	30.17	766.2	68.4	20.2	66	NNW	.....	.....	1	.....	10	.....	NNW	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.91	759.6	30.17	766.2	67.8	19.9	62	NW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.85	745.6	30.22	767.6	70.7	21.5	79	E	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.33	745.0	30.26	768.6	75.4	24.1	59	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.61	752.2	30.15	765.9	68.6	20.3	67	N	.....	.....	1	2c	.....	N	N	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.92	759.9	30.16	766.0	64.8	18.2	78	SW	.....	.....	1	.....	8	.....	NW	0.059	1.50	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.71	754.5	30.13	765.4	85.3	29.6	22	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	30.11	764.7	30.18	766.6	64.8	18.2	60	NW	.....	.....	1	.....	.....	.....	W	0	0	.....	Lair, Director.
Chartres, Normal School	29.66	753.3	30.21	767.2	73.8	23.2	77	SW	.....	.....	1	.....	7	.....	W	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.84	758.0	30.15	765.9	71.2	21.8	49	SW	.....	.....	1	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.77	730.8	30.08	763.9	73.8	23.2	56	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.32	744.6	30.16	766.0	69.1	20.6	68	W	.....	.....	2	.....	2ck	W	W	0.008	0.2	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.03	737.3	30.17	766.3	82.4	28.0	35	S	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.38	746.2	30.12	765.0	75.2	24.0	60	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	30.00	762.1	30.21	767.4	66.2	19.0	81	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.89	759.2	30.19	766.9	68.0	20	64	WNW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.33	744.9	30.23	767.8	72.7	22.6	60	SW	.....	.....	3	.....	2s	.....	SSE	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.11	764.9	30.21	767.4	67.3	19.6	70	W	.....	.....	2	.....	.....	N	W	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Galzin, Director.
Marseilles, Observatory	29.84	757.8	30.10	764.5	71.6	22.0	58	WNW	.....	.....	1-2	.....	0	.....	.....	0	0	Misty	E. Stephan, Director
Mirecourt, Normal School	29.12	739.6	30.13	765.4	70.0	21.1	68	SSE	.....	.....	1	.....	1	.....	SSE	0	0	Clear	Barbier, Director
Mont-Louis	25.09	637.2	30.40	772.2	68.9	20.5	50	E	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nismes, Normal School	29.93	760.3	30.13	765.3	84.9	29.4	34	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.91	759.6	63.5	17.5	68	WNW	.....	.....	1	.....	2	.....	SW	0.008	0.2	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.77	578.3	.....	.....	60.3	15.7	.....	SW	.....	.....	3	.....	3	.....	.....	0	0	Clear	Gen'l de Nansouty.
Perpignan	30.02	762.6	30.13	765.2	78.4	25.8	46	S	11.2	5.0	.....	.....	0	.....	.....	0	0	Hazy	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.39	644.8	.....	.....	56.3	13.5	80	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	73.8	23.2	60	NNE	.....	.....	1	.....	8	NNE	NNE	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.09	764.3	30.18	766.5	66.7	19.3	46	WNW	.....	.....	1	.....	5	W	W	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.17	766.2	30.20	767.0	64.0	17.8	72	NNW	.....	.....	2	.....	1	NW	NW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.02	762.4	30.18	766.6	66.7	19.3	69	WNW	.....	.....	1	.....	2	W	SW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.99	736.3	30.02	762.5	77.0	25	76	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.45	748.0	30.17	766.4	77.0	25.0	54	N	.....	.....	1	.....	0	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.98	761.6	30.18	766.6	67.5	19.7	70	W	.....	.....	1	.....	10	.....	N	0	0	.....	Cousin-Marquet.
Versailles, Observatory	29.69	754.2	30.19	766.7	63.0	17.2	63	NW	.....	.....	2	.....	.....	.....	.....	0.010	0.20	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.46	748.2	30.15	765.7	77.0	25	54	NNE	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	79.5	26.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.54	750.2	30.13	765.4	74.8	23.8	53	NE	.....	.....	1	.....	1	.....	NE	0	0	Clear	Ch. André, Director.
Nice	.....	.....	30.13	765.3	77.0	25.0	67	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.08	753.8	29.70	754.4	82.4	28.0	88	SSE	4.3	1.9	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 385 meters, or 1,278 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.5	30.04	763.0	70.3	21.3	43	NW	.....	.....	4	.....	6	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.79	756.6	29.96	760.9	67.1	19.5	58	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.42	747.2	29.95	760.6	67.8	19.9	48	W	.....	.....	7	.....	4	.....	.....	0	0	.....	Royal University Ob'y.
Carlsruhe	29.71	754.7	30.13	765.4	69.8	21.0	71	SW	.....	.....	2	.....	9	SW	.....	0	0	.....	Albert Sens.
Cassel	29.44	747.8	30.05	763.3	68.4	20.2	48	NNW	.....	.....	3	.....	2	WSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.94	760.4	30.10	764.5	70.0	21.1	58	SW	.....	.....	4	.....	7k	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.01	762.2	65.8	18.6	58	WNW	.....	.....	2	.....	1	.....	.....	0.008	0.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.75	755.7	30.12	765.0	73.4	23.0	.....	WNW	.....	.....	1	.....	5	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	29.86	758.5	29.90	759.5	67.6	19.8	55	WNW	.....	.....	5	.....	7ks	WNW	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.72	729.5	30.12	765.1	67.5	19.7	81	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	29.91	759.8	29.98	761.6	63.3	17.4	65	NW	.....	.....	5	.....	4kn	.....	.....	0.043	1.1	Squally	Captain F. Hegemann
Kiel	29.91	759.6	29.92	760.0	62.4	16.9	63	WNW	.....	.....	5	.....	4	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.43	747.6	29.52	749.7	58.6	14.8	95	W	.....	.....	8	.....	8	.....	.....	0.866	22.0	.....	Prof. E. Luther.
Köslin	.....	.....	29.74	755.4	55.9	13.3	.....	W	.....	.....	6	.....	3	.....	.....	0.941	23.9	.....	H. Müller.
Leipsic Observatory	29.61	752.2	30.02	762.6	70.0	21.4	44	W	.....	.....	4	.....	6	W	.....	0	0	.....	Prof. Bruhns, Privy Counsellor.
Memel	29.32	744.7	29.36	745.8	62.4	16.9	87	NNE	.....	.....	2	.....	10n	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.32	719.4	30.20	767.0	70.7	21.5	48	W	.....	.....	5	.....	5	SW	.....	0	0	Fair	Dr. C. Lang.
Neufahrwasser	29.63	752.7	29.65	753.1	60.3	15.7	76	WNW	.....	.....	7	.....	10	.....	.....	0.181	4.6	.....	A. Lothes.
Posen	29.60	751.9	29.88	759.0	64.9	18.3	63	NW	.....	.....	6	.....	9	.....	.....	0.008	0.2	.....	Dr. Magener.
Strassburg (in Alsace)	29.63	752.6	30.17	766.2	69.4	20.8	66	N	.....	.....	2	.....	8	WNW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.19	741.4	30.10	764.5	71.2	21.8	51	NW	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.64	727.4	30.11	764.8	66.9	19.4	65	W	7	3	.....	.....	6ck	.....	W	0	0	.....	T. Hopfner.
Wustrow	29.86	758.4	29.88	759.0	60.8	16.0	73	W	.....	.....	6	.....	10ks	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.1	29.91	759.6	87.3	30.7	.....	NE	.....	.....	4.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.59	751.5	29.64	752.8	83.3	28.5	72	WSW	17.0	7.6	.....	.....	5	WSW	.....	0	0	D. clouds	
Deesa	29.20	741.6	29.66	753.3	90.8	32.7	44	SSW	13.4	6.0	.....	.....	2	ESE	WSW	0	0	D. clouds	
Bombay	29.69	754.0	29.72	755.0	82.7	28.2	81	NW	16.0	7.2	.....	.....	10	.....	SW	0	0	Overcast	
Poona	27.87	707.9	29.72	755.0	76.8	24.9	80	WNW	.....	.....	.....	.....	10	.....	WNW	0	0	Threatening	
Lahore	28.79	731.2	29.50	749.2	99.2	37.3	41	W	3.1	1.4	.....	.....	3	.....	.....	0	0	Blue sky	
Belgaum	27.19	690.6	29.74	755.3	71.5	21.9	92	WNW	18.0	8.0	.....	.....	10	E	W	0.25	6.4	Thunder-storm	
Roorkee	28.65	727.8	29.53	750.0	89.2	31.8	73	Calm	0.7	0.3	.....	.....	4	.....	.....	0.15	3.8	.....	
Agra	29.01	736.8	29.56	750.7	91.7	33.2	57	W	.....	.....	.....	.....	8	.....	W	0	0	.....	
Nagpur	28.62	727.0	29.66	753.3	81.7	27.6	83	E	2.3	1.0	.....	.....	9	.....	SW	0.04	1.0	D. clouds	
Lucknow	29.21	741.9	29.58	751.4	83.3	28.5	87	S	1.1	0.5	.....	.....	10	.....	.....	1.30	33.0	D. clouds	
Allahabad	29.30	744.2	29.61	752.1	83.1	28.4	87	Calm	1.5	0.7	.....	.....	5	.....	.....	0	0	D. clouds	
Patna	29.40	746.7	29.58	751.2	85.0	29.4	79	Calm	0.4	0.2	.....	.....	8	.....	.....	0.15	3.8	D. clouds	
Hazaribagh	27.63	701.8	29.61	752.2	81.5	27.7	79	NNE	6.3	2.8	.....	.....	10	.....	N	0.64	16.3	Thunder-storm	
Cuttack	29.69	754.2	29.77	756.2	79.4	26.3	82	S	3.0	1.3	.....	.....	8	.....	.....	0.10	2.5	Drizzling	
Calcutta (Alipore)	29.64	752.8	29.66	753.3	82.7	28.2	87	SSE	7.0	3.1	.....	.....	9	S	S	0	0	D. clouds	
Goalpara	29.25	742.9	29.64	752.8	77.8	25.4	94	Calm	1.1	0.5	.....	.....	10	.....	.....	0.24	6.1	Thunder-storm	
Chittagong	29.65	753.1	29.75	755.7	81.1	27.3	85	S	4.3	1.9	.....	.....	9	.....	.....	0	0	Gloomy	
Sibsagar	29.34	745.2	29.67	753.7	82.2	27.9	91	SW	2.3	1.0	.....	.....	10	W	W	0.58	14.7	Overcast	
Jubbulpore	28.81	719.1	29.68	753.8	76.8	24.9	91	Calm	1.8	0.8	.....	.....	10	.....	N	1.22	31.0	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instru'm'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Up'er	Low'r	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.70	754.3	30.10	764.4	79.7	26.5	43	SW	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.68	753.3	30.08	764.0	82.4	28.0	29	W	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.2	30.08	763.9	80.2	26.8	53	SE	5.6	2.5	.....	.....	4	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.18	741.2	30.05	763.2	81.3	27.4	32	SW	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.95	760.6	30.13	765.3	75.6	24.2	53	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.21	716.4	30.04	762.9	79.7	26.5	39	NE	.....	.....	4	.....	0	W?	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.05	763.3	30.10	764.5	76.3	24.6	60	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.83	757.7	30.08	764.0	85.1	29.5	28	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.02	762.6	30.11	764.7	73.9	23.3	73	NW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.91	759.6	30.06	763.9	85.5	29.7	39	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.77	756.2	30.02	762.5	79.2	26.2	35	NNE	21.7	9.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.15	740.5	30.00	761.9	84.9	29.4	61	NW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.92	760.0	30.11	764.7	76 3	24.6	68	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.85	758.3	30.10	764.6	75.4	24.1	57	NE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.97	761.1	30.04	763.0	75.6	24.2	64	NE	4.9	2.2	.....	.....	0	S?	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.77	756.1	30.09	764.2	82.8	28.2	47	WNW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	80.9	27.2	76	SW	15.4	6.9	.....	.....	10ckjcs	.....	.....	0	0	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.87	758.6	29.86	758.4	80.9	27.2	81	SSW	11.3	5.0	.....	.....	7s	.....	S	0.880	22.35	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.78	756.4	29.85	758.2	79.7	26.5	85	S	3.6	1.6	.....	.....	1s	.....	.....	0	0	Fair	The Staff.
Wakayama	29.85	758.2	29.90	759.4	81.0	27.2	72	SSE	8.4	3.7	.....	.....	1cs	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.01	635.2	30.02	762.5	66.6	13.8	71	NW	.....	.....	2	.....	2	.....	Calm	0.008	0.2	Clear	Prof. L. Peres.
Leon	24.39	619.6	30.02	762.4	62.6	17.1	77	SW	.....	.....	1	0	1k	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.3	29.99	761.7	57 2	14.0	81	Calm	0	0	.....	.....	10k	.....	.....	0.012	0.3	Covered	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	62.1	16.7	74	NW	.....	.....	3	1c	0	.....	.....	Inap.	Inap.	Clear	M. V. de Leon, M. E
Tlacotalpam	29.88	759.0	29.89	759.2	78.1	25.6	87	NW	.....	.....	2	6	1	S	NE	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.18	614.2	30.07	763.8	63.0	17.2	72	E	.....	.....	2	3	6	W	E	0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel
Zacatecas	22.56	573.1	30.11	764.8	58.6	14.8	68	NE	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.8	30.14	765.6	54.5	12.5	83	S	1.8	0.8	.....	9ck	0	SE	.....	0	0	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.54	750.2	29.82	757.5	78.1	25.6	85	Calm	.....	.....	0	9c	6n	Calm	Calm	Inap	Inap.	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,589.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.13	765.2	30.13	765.2	64.4	18.0	.....	WNW	.....	.....	3	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	29.96	761.0	30.06	763.4	.....	.....	.....	WNW	.....	.....	2	.....	.....	.....	.....	0.004	0.1	.....	
Helder	30.07	763.8	30.07	763.8	61.5	16.4	.....	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.11	764.7	30.11	764.7	67.1	19 5	65	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	30.07	763.7	30.11	764.9	66.7	19.3	61	WSW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.74	755.3	29.79	756.7	56.1	13.4	80	NW	9.2	4.1	.....	.....	10	.....	.....	0.087	2.2	.....	
Brönö	29.60	751.9	29.64	752.9	62.6	17.0	75	Calm	0	0	.....	.....	6	.....	.....	0.024	0.6	Foggy	
Christiania	29.48	748.9	29.63	752.5	69.8	20.7	62	ESE	4	2	.....	.....	9	.....	.....	0.063	1.6	.....	
Tromsö	29.66	753.4	29.71	754.5	56.1	13.4	85	NNE	11	5	.....	.....	2	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.15	765.9	30.34	770.6	74.7	23.7	85	W	4.9	2.2	.....	.....	5	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.6	30.00	761.9	90.7	32.6	26	S	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.3	30.14	765.5	75.2	24.0	66	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.8	30.07	763.6	79.0	26.1	43	NNW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.30	769.5	30.36	771.2	81.0	27.2	64	S	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from —																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.00	762.0	66.2	19.0	.....	NW	.....	.....	1	.....	10	.....	NW	1	NW	Overcast	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	.....	.....	29.99	761.7	81.7	27.6	.....	NE	.....	.....	1	.....	5	.....	NE	1	NE	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.76	755.8	86.9	30.5	.....	SW	.....	.....	2	.....	5	.....	SW	1	SW	D. clouds	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.34	745.2	29.75	755.6	64.6	18.1	72	W	25	11	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.13	739.8	29.54	750.2	59.0	15.0	83	S	9	4	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.16	740.6	29.39	746.6	61.5	16.4	93	SW	4	2	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.25	742.9	29.26	743.3	64.0	17.8	82	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	29.14	740.1	29.75	755.6	70.5	21.4	52	W	9	4	.....	.....	8k;cks;	ck	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.85	758.1	29.92	759.9	80.4	26.9	40	NW	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.89	759.1	29.91	759.6	76.3	24.6	67	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.00	736.7	29.52	749.9	71.1	21.7	67	SW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.46	748.2	29.65	753.1	84.2	29.0	37	WSW	18	8	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.71	754.5	29.72	755.0	68.0	20.0	66	ENE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.36	720.3	29.67	753.6	93.0	33.9	41	NW	31	14	.....	.....	2s	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.80	756.9	29.72	754.8	92.1	33.4	35	S	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.15	740.4	29.68	753.3	90.9	32.7	27	S	22	10	.....	.....	7	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.31	744.4	29.57	751.0	87.4	30.8	41	ESE	7	3	.....	.....	4	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.78	730.9	29.68	753.9	78.1	25.6	44	WSW	9	4	.....	.....	9cks	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	29.58	751.4	29.80	757.0	86.5	30.3	25	NNE	13	6	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.23	717.0	29.69	754.2	84.6	29.2	34	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.15	740.4	29.63	752.5	70.7	21.5	57	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.46	748.3	29.74	755.4	69.8	21.0	65	N	2	1	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.47	748.5	29.61	752.1	83.1	28.4	88	S	4	2	.....	.....	3k	.....	.....	.....	.....	Thunder	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.63	752.6	29.73	755.1	71.2	21.8	87	NE	7	3	.....	.....	10ks;n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.01	762.3	30.11	764.9	79.5	26.4	55	SSE	3.5	1.58	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.05	763.2	30.10	764.6	79.2	26.2	44	NW	1.3	0.58	.....	1	0	SE	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.2	.....	.....	82.4	28.0	40	NE	6.4	2.88	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.88	708.1	29.95	760.7	91.8	33.2	31	S	7.4	3.33	.....	0	4	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.97	761.1	30.11	764.7	84.6	29.2	53	ESE	6.5	2.89	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	29.98	761.5	78.3	25.7	63	NE	13.0	5.8	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	761.0	30.03	762.7	83.0	28.3	79	ESE	3.6	1.6	.....	7c;cs	0	NNE	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.7	29.81	757.0	83.9	28.8	89	NNW	9.0	4.0	.....	.....	10n	.....	W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.03	762.9	82.9	28.3	51	ESE	23.7	10.6	.....	1	1	E	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.1	30.02	762.4	83.5	28.6	74	E	0	0	.....	4k	6k	E	E	0.217	5.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 665.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.07	753.7	29.71	754.7	74.8	23.8	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	
Umea	29.59	751.6	29.64	752.9	75.2	24.0	54	E	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.53	750.1	29.58	751.4	75.2	24.0	67	NE	.....	.....	4	.....	1	.....	.....	0.068	1.6	.....	
Stockholm	29.39	746.5	29.57	751.0	66.6	19.2	64	N	.....	.....	6	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.47	748.4	29.52	749.9	65.1	18.4	75	NNE	.....	.....	7	.....	3	.....	.....	0.016	0.4	.....	
Sub-Series.																			
Upsala	29.49	749.1	29.58	751.3	67.3	19.6	61	NNW	11.6	5.2	.....	.....	10	.....	NE	0.004	0.10	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstierna.
.....																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.74	730.1	30.13	765.3	68.5	20.3	62	NNE	.....	.....	2	.....	1	.....	.....	0	0	Clear..	The Observatory.
Zurich	28.55	725.2	30.13	765.3	72.7	22.6	60	W	.....	.....	2	.....	1	.....	.....	0	0	Clear..	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.3 mm.; Thermometer,—2.3 Cent.; Relative Humidity, +9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.94	760.5	78.4	25.8	51	NNE	17	7.5	.....	.....	1	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.7	86.7	30.4	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.50	749.3	29.61	752.2	86.0	30.0	71	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....																			
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Charlottetown, P. E. Island	29.94	760.5	30.00	762.0	60	15.6	62	W	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	G. A. Ball.
Cornwall, Ontario	29.93	760.2	29.98	761.5	61	16.1	60	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Dalhousie, N. B	29.88	758.9	30.08	764.0	58.2	14.6	76	SE	.....	.....	2	3cs	2s	.....	.....	0	0	Fair.....	James Smith, M. A.
Esquimault, B. C	29.83	757.7	29.99	761.7	58.3	14.6	67	W	.....	.....	3	0	1ks	.....	.....	0.63	16.0	Fair.....	H. A. Johnson.
*Father Point, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
Fredericton, N. B	30.05	763.3	30.07	763.8	51	10.6	82	W	12	5.4	.....	0	2s	.....	Calm	Inap.	Inap.	Clear.....	J. McWilliams.
*Fort Garry, Manitoba	30.04	763.0	30.10	764.5	57.2	14.0	63	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
Granton, Ontario	28.80	731.5	29.61	752.1	54	12.2	93	SW	5	2.2	.....	2k	5ks	W	W	0.560	14.22	Cloudy .	James Stewart.
*Halifax, N. S	28.86	733.0	29.93	760.2	63	17.2	78	E	.....	.....	1	1cs	0	E	.....	0	0	Clear.....	James Grant.
Hamilton, Ontario	29.93	760.2	30.04	763.0	68	20.0	50	W	5	2.2	.....	2c	0	W	.....	Inap.	Inap.	Fair	F. Allison, M. A.
Heart's Content, N. F	29.62	752.3	29.98	761.5	65.9	18.8	81	E	.....	.....	3	7ck	0	SW	.....	0	0	Cloudy.....	Geo. Dickson, A. M.
*Kingston, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Little Glace Bay, N. S	29.70	754.4	30.03	762.7	63	17.2	71	NE	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair.....	S. Woods, M. A.
Moose Factory, Ontario	29.80	759.2	29.93	760.2	65.8	18.8	66	SW	5	2.2	.....	1k	0	SW	.....	0.02	0.5	Clear.....	C. H. Rigby.
*Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Parry Sound, Ontario	29.03	760.2	30.13	765.3	59	15.0	69	E	5	2.2	.....	8c	0	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
Peterboro, Ontario	29.34	745.2	30.01	762.2	62	16.7	61	E	11	4.9	.....	2cs	0	E	.....	0	0	Fair.....	Rev. R. Mosley.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Hastings, N. S	29.26	743.2	29.94	760.5	60	15.6	94	NE	6	2.7	.....	5k	5n	E	E	0.38	9.7	Cloudy.....	H. Morgan.
Port Stanley, Ontario	29.94	760.5	29.98	761.5	55.5	13.1	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
*Quebec, Quebec	29.30	744.2	29.93	760.2	62	16.7	88	NE	6	2.7	.....	.....	10n	.....	W	Inap.	Inap.	Light rain...	M. Payne.
*Rockliffe, Ontario	29.85	758.2	30.16	766.1	59	15.0	41	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N.
St. Andrews, N. B	29.95	758.1	30.10	764.5	53	11.7	80	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair.....	W. H. McIntyre.
St. John, N. B	30.04	763.0	30.09	764.3	59	15.0	64	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.92	760.0	30.08	764.0	60	15.6	60	NW	6	2.7	.....	3c	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
Stayner, Ontario	29.27	743.4	29.96	761.0	65	18.3	56	SE	16	7.2	.....	5k	0	S	.....	0	0	Cloudy.....	K. Stewart.
Stratford, Ontario	29.21	741.9	29.97	761.2	60	15.6	65	SE	8	3.6	.....	2ck	0	W	.....	0	0	Fair.....	R. J. Cole.
*Sydney, C. B	28.70	729.0	29.95	760.7	60.9	16.1	80	SE	10	4.5	.....	3c;cs	3s	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Toronto, Ontario	29.90	759.4	29.94	760.5	65	18.3	59	W	11	4.9	.....	0	0	.....	.....	0.02	0.5	Clear.....	T. C. Hill.
Windsor, N. S	29.62	752.3	30.00	762.0	62	16.7	61	E	17	7.6	.....	8ck	0	W	.....	0	0	Cloudy.....	Magnetic Observatory.
Woodstock	30.02	762.5	30.11	764.8	71.0	21.7	58	N	4	1.8	.....	1c	0	.....	.....	0	0	Fine.....	Prof. John E. Oram.
Sub-Series.	28.88	733.5	29.91	759.7	63.8	17.7	73	NE	12	5.4	.....	0	7ks	.....	SW	0	0	Cloudy.....	Prof. J. Montgomery.
St. Johns, Newfoundland	29.69	754.1	29.93	760.2	64.0	17.8	62	S	.....	.....	.....	5c	4s	.....	.....	0.11	2.8	Fair.....	John Delany.
.....																			

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.89	759.2	30.11	764.8	62	16.7	77	Calm	0	0	.....	0	Haze	.....	....	0	0	Clear	
Alpena, Michigan	29.31	744.5	29.93	760.2	65	18.3	78	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	100	SE	15	6.7	.....	.....	10s	....	SE	0	0	Cloudy	
Atlanta, Georgia	28.80	731.5	29.58	758.9	78	25.6	77	S	9	4.0	.....	10c	0	SW	.....	0.10	2.5	Cloudy	
Atlantic City, New Jersey	30.01	762.2	30.03	762.7	68	20.0	95	E	9	4.0	.....	.....	10s;fg	.....	Calm	0.01	0.3	Cloudy	
Augusta, Georgia	29.80	756.9	29.99	761.7	79	26.1	74	SW	2	0.9	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Clear	
Baltimore, Maryland	29.96	761.0	30.01	762.2	75	23.9	86	E	7	3.1	.....	5k	5ks	E	E	0.16	4.1	Cloudy	
Barnegat, New Jersey	30.01	762.2	30.03	762.7	67	19.4	95	E	10	4.5	.....	.....	10s	.....	E	0	0	Cloudy	
Bismarck, Dakota	28.09	713.5	29.94	760.5	58	14.4	76	W	17	7.6	.....	5k	2s	NW	NW	0	0	Fair	
Boerne, Texas	28.52	724.4	29.76	755.9	77	25.0	49	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.18	690.4	30.14	765.5	60	15.6	55	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.99	761 7	30.14	765.5	68	20.0	42	E	9	4.0	.....	1c	0	Calm	.....	0	0	Clear	
Brackettville, Texas	28.79	731.3	29.77	756.1	79	26.1	66	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.80	731.5	29.76	755.9	57	13.9	87	SW	11	4.9	.....	2cs	0	Calm	.....	0.10	2.5	Clear	
Brownsville, Texas	29.84	757.9	29.89	759.2	84	28.9	75	SE	4	1.8	.....	2k	0	SE	.....	0	0	Clear	
Buffalo, New York	29.24	742.7	29.92	760.0	62	16.7	83	NE	8	3.6	.....	2k	8s	S	S	0.06	1.5	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	52	Calm	.....	.....	0	2c	0	SE	.....	0	0	Clear	
Burlington, Vermont	29.84	757.9	30.12	765.0	59	15.0	70	S	1	0.4	.....	5c	0	W	.....	0	0	Fair	
Cairo, Illinois	29.53	750.0	29.90	759.4	77	25.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Campo, California	27.35	694.7	29.92	760.0	51	10.6	72	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.00	762.0	82	27.8	83	S	19	8.5	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	79	26.1	78	Calm	0	0	.....	5ck	Haze	SW	Calm	0.07	1.8	Fair	
Cape Lookout, N. Carolina	29.97	761.2	29.99	761.7	82	27.8	83	S	15	6.7	.....	8k	0	S	.....	0	0	Cloudy	
Cape May, New Jersey	29.97	761.2	30.00	762.0	73	22.8	90	E	14	6.3	.....	.....	Fog	.....	E	0.10	2.5	Foggy	
Castroville, Texas	29.13	739.9	29.82	757.4	82	27.8	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.94	760.5	29.99	761.7	83	28.3	71	W	5	2.2	.....	0	5s	.....	W	0	0	Fair	
Charlotte, North Carolina	29.14	740.1	29.91	759.7	75	23.9	90	S	5	2.2	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Chattanooga, Tennessee	29.16	740.7	29.92	760.0	75	23.9	90	Calm	0	0	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	52	11.1	73	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.20	741.7	29.86	758.4	69	20.6	80	Calm	0	0	.....	.....	8s;fog	.....	SE	0	0	Cloudy	
Cincinnati, Ohio	29.27	743.4	29.88	758.9	77	25.0	77	S	2	0.9	.....	6ck;k	0	W	....	0.01	0.3	Fair	
Cleveland, Ohio	29.17	740.9	29.86	758.4	71	21.7	85	SE	3	1.3	.....	.....	10ks;fg	.....	S;Calm	0.42	10.7	Cloudy	
Coleman City, Texas	28.15	715.0	29.72	754.9	81	27.2	59	SE	2	0.9	.....	5ck	0	SW	.....	0.04	1.0	Fair	
Columbus, Ohio	29.04	737.6	29.83	757.7	75	23.9	81	N	2	0.9	.....	5ck	Haze	Calm	Calm	Inap.	Inap	Fair	
Concho, Texas	28.04	712.2	29.62	752.3	80	26.7	66	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.48	748.8	29.93	760.2	83	28.3	56	S	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.28	743.7	29.90	759.4	68	20.0	84	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Deadwood, Dakota	25.52	648.2	.....	.....	56	13.3	75	Calm	0	0	.....	5k	0	E	.....	0	0	Fair	
Decatur, Texas	28.76	730.5	29.86	758.4	80	26.7	78	SE	3	1.3	.....	.....	10s	.....	SW	0.50	12.7	Cloudy	
Denison, Texas	29.10	739.1	29.85	758.2	79	26.1	82	Calm	0	0	.....	0	8ks	.....	SW	0.11	2.8	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	61	16.1	94	N	16	7.2	.....	2ck	8s	N	N	0	0	Cloudy	
Des Moines, Iowa	29.04	737.6	29.88	758.9	68	20.0	79	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
Detroit, Michigan	29.23	742.4	29.87	758.7	66	18.9	74	NE	8	3.6	.....	5ck	2s	Calm	Calm	0	0	Fair	
Dodge City, Kansas	27.42	696.5	29.60	751.8	70	21.1	85	Calm	0	0	.....	2ck	5ks	W	S	0	0	Fair	
Dubuque, Iowa	29.20	741.7	29.87	758.7	66	18.9	69	SW	3	1.3	.....	5c	0	S	.....	0	0	Fair	
Duluth, Minnesota	29.10	739.1	29.75	755.6	60	15.6	94	Calm	0	0	.....	.....	10s	....	W	0.27	6.9	Cloudy	
Eagle Pass, Texa	29.13	739.9	29.82	757.4	83	28.3	64	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.03	762.7	30.10	764.5	61	16.1	55	NW	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	87	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.26	667.0	.....	.....	76	24.4	56	NW	4	1.8	.....	0	2s	.....	NW	0.11	2.8	Fair	
Erie, Pennsylvania	29.20	741.7	29.88	758.9	68	20.0	74	NE	4	1.8	.....	.....	10s	.....	W	Inap	Inap	Cloudy	
Escanaba, Michigan	29.23	742.4	29.85	758.2	65	18.3	84	S	11	4.9	.....	.....	10ks	.....	SW	0.02	0.5	Cloudy	
Florence, Arizona	28.34	719.8	29.94	760.5	83	28.3	50	W	1	0.4	.....	0	0	....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.96	710.2	.....	.....	58	14.4	81	NW	16	7.2	.....	10cs	0	NW	.....	0	0	Cloudy	
Fort Davis, Texas	25.23	640.8	30.19	766.8	67	19.4	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.35	745.5	29.85	758.2	81	27.2	78	Calm	0	0	.....	5cs	0	N	.....	Inap.	Inap.	Fair	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	75	23.9	33	N	4	1.8	.....	0	0	....	0	0	Clear	
Fort Griffin, Texas	28.68	728.5	29.88	758.9	81	27.2	70	Calm	0	0	.....	.....	9s	.....	Calm	0	0	Clearing	
Fort Keogh, Montana	27.54	699.5	.....	.....	58	14.4	76	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.69	703.3	29.50	749.3	77	25.0	57	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.76	755.9	78	25.6	73	NE	4	1.8	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	28.05	712.5	.....	.....	57	13.9	87	W	16	7.2	.....	.....	8s	.....	NW	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	71	21.7	53	NW	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.69	754.1	80	26.7	59	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	83	28.3	79	SW	9	4.0	.....	8ck	2ks	Calm	SW	0	0	Cloudy	
Graham, Texas	28.86	733.0	29.85	758.2	80	26.7	78	Calm	0	0	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Grand Haven, Michigan	29.27	743.4	29.88	758.9	70	21.1	66	SE.	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.95	735.3	29.83	757.7	78	25.6	82	Calm	0	0	.....	0	8s	.....	W	0.02	0.5	Cloudy	
Indianapolis, Indiana	29 12	739.6	29.86	758.4	71	21.7	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.95	760.7	29.97	761.2	83	28.3	75	S	7	3.1	.....	1c	2ks	Calm	S	0	0	Fair	
Jacksboro, Texas	28.81	731.8	29.87	758.7	83	28 3	71	SW	2	0.9	.....	.....	10s	.....	SW	0.35	8.9	Cloudy	
Jacksonville, Florida	30.04	763 0	30.06	763.5	84	28.9	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.28	743.7	29.86	758.4	73	22.8	76	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	84	28.9	76	NE	10	4.5	.....	5k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.91	759.7	29.93	760.2	81	27.2	87	SW	10	4.5	.....	0	8ks	.....	SW	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	29.93	760.2	73	22.8	90	SW	2	0.9	.....	.....	10ks	.....	SW	0.16	4.1	Cloudy	
La Crosse, Wisconsin	29.13	739.9	29.84	757.9	67	19.4	84	SW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	71	21.7	71	NW	1	0.4	.....	5ck	0	NW	.....	0	0	Fair	
Laredo, Texas	29.47	748.5	29.79	756.7	89	31.7	53	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.09	738.9	29.89	759.2	71	21.7	85	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Little Rock, Arkansas	29.57	751 1	29.91	759.7	76	24.4	100	S	3	1.3	.....	.....	10n	.....	Calm	0.86	21.8	Light rain	
Los Angeles, California	29.54	750.3	29.88	758.9	67.5	14.2	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.87	758.7	76	24.4	86	S	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Lynchburg, Virginia	29.30	744.2	29.94	760.5	77	25.0	82	Calm	0	0	.....	.....	10s	.....	W	0.13	3.3	Cloudy	
Madison, Wisconsin	28.90	734.0	29.84	757.9	66	18.9	84	SW	5	2.2	.....	5ck	0	SW	.....	0	0	Fair	
Marquette, Michigan	29.13	739.9	29.80	756.9	63	17.2	78	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Mason, Texas	28.28	718.3	29.95	760.7	79	26.1	66	S	2	0.9	.....	2cs	0	S	.....	0	0	Fair	
Memphis, Tennessee	29.58	751.3	29.90	759.4	77	25.0	95	S	1	0.4	.....	.....	10ks	.....	SW	0.14	3.6	Cloudy	
Milwaukee, Wisconsin	29.16	740.7	29.85	758.2	65	18.3	84	NW	3	1.3	.....	1ck	Sm'e	Calm	.....	0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	80	26.7	91	SW	2	0.9	.....	.....	10s	.....	W	0.61	15.5	Cloudy	
Montgomery, Alabama	29.74	755.4	29.96	761.0	78	25.6	90	W	4	1.8	.....	.....	10n	.....	W	0.16	4.1	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.92	734.6	29.85	758.2	76	24.4	77	Calm	0	0	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	40	4.4	27	NW	15	6.7	.....	8c	0	NW	.....	0	0	Fair	
Nashville, Tennessee	29.40	746.7	29.91	759.7	74	23.3	95	Calm	0	0	.....	.....	10n	.....	Calm	2.50	63.5	Light rain	
New Haven, Connecticut	29.99	761.7	30.11	764.8	65	18.3	73	NE	11	4.9	.....	5cs;hz	0	Calm;W	.....	0	0	Fair	
New London, Connecticut	30.05	763.3	30.10	764.5	72	22.2	67	NE	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
New Orleans, Louisiana	29.96	761.0	30.01	762.2	83	28.3	79	SW	4	1.8	.....	1c	0	Calm	.....	0.07	1.8	Clear	
Newport, Rhode Island	30.06	763.5	30.11	764.8	69	20.6	56	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.89	759.2	30.06	763.5	71	21.7	80	NE	16	7.2	.....	1ck	Haze	NE	Calm	0	0	Hazy	
Norfolk, Virginia	29.92	760.0	29.97	761.2	83	28.3	75	S	4	1.8	.....	8k	Sm'e	W	.....	0.21	5.3	Smoky	
North Platte, Nebraska	27.15	689.6	29.66	753.4	60	15.6	91	SE	8	3.6	.....	.....	10n	.....	SW	2.44	62.0	Heavy rain	
Olympia, Washington Ter.	29.98	761.0	30.00	762.0	57.5	14.2	94	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.80	731.5	29.85	758.2	70	21.1	80	W	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Oswego, New York	29.71	754.6	30.02	762.5	65	18.3	63	SE	14	6.3	.....	5cs	5ks	Calm	SW	0	0	Cloudy	
Pembina, Dakota	28.78	731.0	29.57	751.1	57	13.9	87	W	5	2.2	.....	.....	10s	.....	NW	0.66	16.8	Cloudy	
Philadelphia, Pa	29.98	761.5	30.03	762.7	71	21.7	85	E	12	5.4	.....	.....	10ks	.....	E	0	0	Cloudy	
Phœnix, Arizona	28.60	726.4	30.26	769.1	84	28.9	47	W	2	0.9	.....	2ck	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	36	2.2	61	W	16	7.2	.....	0	Haze	.....	.....	0.03	0.8	Hazy	
Pilot Point, Texas	29.09	738.9	29.89	759.2	85	29.4	79	SE	5	2.2	.....	5k	5s	S	SE	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	67	19.4	33	Calm	0	0	.....	0	2ks	.....	SW	0.01	0.3	Fair	
Pittsburg, Pennsylvania	29.10	739.1	29.86	758.4	71	21.7	90	E	3	1.3	.....	.....	10ks	.....	S	0.52	13.2	Cloudy	
Port Huron, Michigan	29.26	743.2	29.89	759.2	65	18.3	63	NE	5	2.2	.....	5c	0	W	.....	0	0	Fair	
Portland, Maine	30.09	764.3	30.14	765.5	63	17.2	62	N	4	1.8	.....	1c	0	Calm	.....	0	0	Clear	
Portland, Oregon	29.91	759.7	29.98	761.5	62.0	16.7	91	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.78	629.4	30.14	765.5	62	16.7	72	NW	.....	.....	1	1c	0	Calm	.....	0.31	7.9	Clear	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	77	25.0	77	E	7	3.1	.....	5cs	0	SW	.....	0.59	15.0	Fair	
Red Bluff, California	29.51	749.5	29.85	758.2	73	22.8	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	81	27.2	78	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Rochester, New York	29.41	747.0	30.01	762.2	59	15.0	94	SE	4	1.8	.....	.....	10n	.....	SE	0.04	1.0	Light rain	
Roseburg, Oregon	29.42	747.3	29.98	761.5	60	15.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.77	756.1	29.85	758.2	59	15.0	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.36	745.7	29.91	759.7	72	22.2	76	N	6	2.7	.....	1ck	2ks	Calm	Calm	0	0	Fair	
St. Marks, Florida	30.03	762.7	30.04	763.0	81	27.2	87	SW	6	2.7	.....	2c	2ks	Calm	S	0.53	13.5	Fair	
St. Paul, Minnesota	28.99	736.3	29.78	756.4	62	16.7	83	SW	10	4.5	.....	5c	0	W	.....	0.35	8.9	Fair	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	61	16.1	45	Calm	0	0	.....	1k	0	W	.....	0	0	Clear	
San Antonio, Texas	29.24	742.7	29.79	756.7	81	27.2	74	SE	1	0.4	.....	2c	0	S	.....	0	0	Clear	
San Diego, California	29.84	757.9	29.91	759.7	65.	18.3	89	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.22	742.2	29.86	758.4	72	22.2	80	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	68	20.0	90	NE	24	10.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.88	758.9	29.94	760.5	54	12.2	93	W	6	2.7	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0.18	4.6	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.7	83	28.3	75	SW	5	2.2	.....	2ck	0	SW	.....	0.04	1.0	Fair	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	83	28.3	71	SW	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.99	761.7	30.03	762.7	73	22.8	100	NW	4	1.8	.....	.....	10n	.....	Calm	2.60	66.0	Heavy rain	
Socorro, New Mexico	25.43	645.9	29.49	749.0	74	23.3	55	Calm	0	0	.....	1c	2s	Calm	Calm	0	0	Fair	
Springfield, Ill	29.27	743.4	29.93	760.2	69	20.6	75	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Springfield, Massachusetts	30.00	762.0	30.13	765.3	68	20.0	56	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.93	684.0	29.93	760.2	76	24.4	2	SE	4	1.8	.....	2c	0	E	.....	0	0	Fair	
Thatcher's Island, Mass	30.16	766.1	30.21	767.3	59	15.0	70	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.23	742.4	29.89	759.2	67	19.4	89	NE	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Tucson, Arizona	27.42	696.5	29.97	761.2	84	28.9	43	S	2	0.9	.....	8ck	0	Calm	.....	0	0	Cloudy	
Umatilla, Oregon	29.60	751.8	30.08	764.0	71.0	21.7	53	Calm	0	0	.....	0	5ks	.....	NW	0	0	Fair	
Uvalde, Texas	28.99	736.3	29.77	756.1	80	26.7	66	E	3	1.3	.....	0	1s	.....	E	0	0	Clear	
Vicksburg, Mississippi	29.72	754.9	29.97	761.2	81	27.2	78	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Virginia City, Montana	24.42	620.3	29.90	759.4	51	10.6	65	SE	5	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.47	748.5	29.83	757.7	64	17.8	48	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.89	759.2	30.00	762.0	75	23.9	81	E	6	2.7	.....	.....	10s;same	.....	E	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	37	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.91	759.7	29.99	761.7	78	25.6	82	S	7	3.1	.....	5ck	5s	S	S	0.05	1.3	Cloudy	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	60	15.6	34	NE	12	5.4	.....	1ck	0	W	.....	0	0	Clear	
Wood's Holl, Mass	30.08	764.0	30.11	764.8	70	21.1	66	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.67	728.2	29.92	760.0	62	16.7	77	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Yuma, Arizona	29.60	751.8	29.76	755.9	80	26.7	55	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.20	640.1	.....	.....	66.0	18.9	82	Calm	.....	.....	0	2k	6ks	.....	.....	0.17	4.3	Fair	Thomas Herran.
Navassa, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.86	758.4	29.94	760.5	80	26.7	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	½ Clouded	C. J. Hering.
Santiago de Cuba, W. I	29.97	761.2	29.97	761.2	79	26.1	92	SE	.....	.....	3	5k	7ks	E	.....	0	0	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,523 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,209 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 68.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

1879—July 25.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r —10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡			84	28.9	91	W	5	2.2			8		W	0	0			Fair	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.86‡	758.4‡			79.5	26.4	84	SW			2		Haze		Calm	0	0			Clear	
Adams. Mare I'd., Navy Yard, Cal.	29.96‡	761.0‡			60	15.6	94	SSW			3		5		SSW					Fair	
Alliance, N. 57° 38′, E. 8° 32′	29.71‡	754.6‡			56	13.3	87	NW			6		9		NW					Squally	
Ashuelot, Yokohama, Japan	29.87‡	758.7‡			83	28.3	87	NE			1		2					Smooth		Hazy	
Colorado, New York, N. Y.	30.02‡	762.5‡			72	22.2	80	NE	4	1.8			2			0	0			Clear	
Constellation, Off North Hampton, N. H.	30.14‡	765.5‡			58	14.4	75	NE			1		2		Calm	0	0			Clear	
Constitution. Navy Yard, Brooklyn, N.Y.	30.08‡	764.0‡			72	22.2	76	NE			2		2		Calm					Clear	
Enterprise, Cronstadt, Russia	29.29‡	744.0‡			65	18.3	89	ENE			3		8		E	Blank	Blank			Cloudy	
Essex, Buenos Ayres, Argentine Rep., S. A.	30.19‡	766.8‡			52	11.1	100	Calm			0		5					Smooth		Fair	
Franklin. Norfolk, Va.	29.97‡	761.2‡			80	26.7	82	SSE	6	2.7			8			0.15	3.8			Cloudy	
Hartford. S. 31° 06′, W. 46° 58′	30.17‡	766.3‡			63	17.2	62	ESE			1		10		SE	0	0	Long	S	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.93‡	760.2‡			62	16.7	83	W	4	1.8			2?		SSW					Cloudy?	
Kearsarge, St. Johns, New Foundland.	29.83‡	757.7‡			62	16.7	77	NW			3		2		NW					Fair	
Michigan, Lake Huron	29.86‡	758.4‡			61	16.1	46	SSE			2		10		SSE			Light	SSE	Cloudy	
Monocacy, Shanghai, China	29.67‡	753.6‡			84	28.9	87	SSE			2		8		SSE					Cloudy	
Monongahela, Yokohama, Japan	29.84‡	757.9‡			84	28.9	96	ESE			2		ck			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.02‡	762.5‡			80	26.7	91	SW	11	4.9			5		SW	0	0			Fair	
Onward, Callao, Peru	29.97‡	761.2‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.66‡	753.9‡			82	27.8	91	SSE			2		5							Fair	
Passaic, Washington, D. C.					76	24.4	91	NE			1		5							Fair	
Pensacola, Callao, Peru	29.99‡	761.7‡			61	16.1	94	Calm	0	0			10					Smooth		Overcast	
Portsmouth. Boston, Mass.	30.13‡	765.3‡			66	18.9	49	E			2		2		ENE	0	0			Clear	
Powhatan, Navy Yard, League Isl., Pa.	30.00‡	762.0‡			72	22.2	85	E			3		10		E	0	0			Cloudy	
Quinnebaug, Constantinople, Turkey	29.94‡	760.5‡			77	25.0	57	NE			5		0							Clear	
Ranger, N. 24° 52,′ E. 119° 16′	29.79‡	756.7‡			82	27.8	87	SE			2		5					Smooth		D. clouds	
Richmond, Yokohama, Japan	29.84‡	757.9‡			83	28.3	79	S			1		2					Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			82	27.8	96	SE			1		2		E	0	0			Fair	
Santee, Annapolis, Md.	30.01‡	762.2‡			74	23.3	90	E			3		10		E	0	0			Cloudy	
Saratoga, Gardner'sBay, LongI'd., N.Y.	30.11‡	764.8‡			64	17.8	100	NE			3		0			0	0			Blue sky	
St. Louis, League Island, Pa	30.02‡	762.5‡			73	22.8	90	E	9	4.0			10		E	0	0			Cloudy	
Trenton, N. 57° 26′, E. 9° 13′	29.69‡	754.1‡			59	15.0	88	W			5–6		10		WNW	0	0	Heavy	N;W	Cloudy	
Tuscarora, Off Mare Isl. Navy Yard, Cal.	29.94‡	760.5‡			59	15.0	94	SW			2		10		Calm	0	0	Smooth		Foggy	
Vandalia, Delaware river	29.99‡	761.7‡			72	22.2	95	NE			3		10		NE					Cloudy	
Wabash, Boston, Mass.	30.14‡	765.5‡			66	18.9	45	NE	10	4.5			0			0	0			Clear	
Wyoming. Phalerum, Greece	29.89‡	759.2‡			84	28.9	68	NE			3–6		2		NE			Smooth	NE	Clear	
Wachusett, New Orleans, La	30.02‡	762.5‡			81	27.2	83	SSW			2		5?		SW					Cloudy?	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 30° 57', W. 117° 22'..†		29.91‡	759.7‡	63	17.2	67	NW			5		10		NW	0	Mod'ate	NW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 24° 53', W. 173° 35'		30.13‡	765.3‡				SE			4				W		Mod'ate	SE	Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 42° 16', W. 171° 58'...†.		30.19‡	766.8‡	62	16.7	94	SSW			4		Fog			0	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 47° 12', W. 164° 31'...†.		30.30‡	769.6‡	51	10.6	93	ENE			2		n		ENE	0	Smooth	ENE	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 36° 58', W. 75° 28'		29.97‡	761.2‡	77.0	25.0	91	SSE			1		8		S		Smooth	S	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 44° 41', W. 39° 47'		30.30‡	769.6‡				WNW			5		5		W		8	W	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 31', W. 62° 27'		30.08‡	764.0‡	70	21.1	90	WNW			6		4		W	Mod'ate	Mod'ate	W	Cloudy?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 38° 1', W. 73° 42'		29.95‡	760.7‡	77	25.0	95	SSE	4	1.8			10k		SE	0	Smooth			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 38° 30', W. 72° 10'†		30.11‡	764.8‡				S			1		8		S	0	Smooth	S	Fair	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

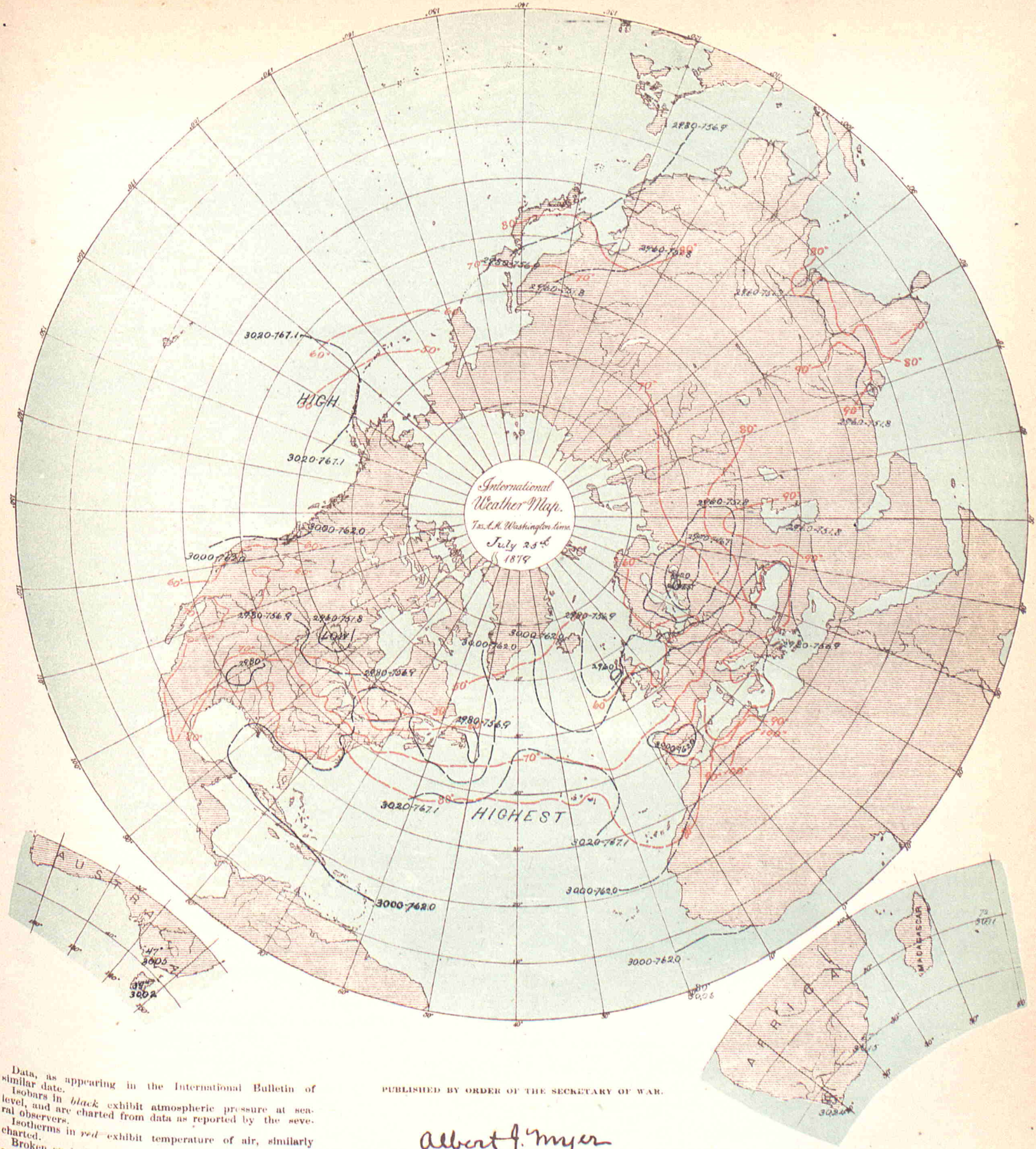
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D, CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 324 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount.- Up'er 0—10.	Clouds. Amount.- Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.8	70.2	21.2	.....	E	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.04	762.9	79.5	26.4	82	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.00	761.9	76.6	24.8	77	WNW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Tourillere.
La Calle	.....	.....	30.06	763.4	74.8	23.8	86	ENE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.4	94.3	34.6	17	N	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.04	763.1	91.0	32.8	34	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	84.9	29.4	37	SSW	.....	.....	5	.....	5	.....	.....	Inap.	Inap.	Cloudy	Brugnlaux.
Laghouat	.....	.....	29.98	761.6	97.9	36.6	38	ESE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.04	762.9	99.1	37.3	28	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.46	748.3	29.98	761.6	81.0	27.2	44	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.26	743.2	30.00	762.1	70.2	21.2	51	WNW	11.9	5.3	.....	.....	5	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.10	739.1	29.94	760.5	73.4	23.0	58	S	.....	.....	2	.....	6s;cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.80	731.4	29.99	761.8	75.0	23.9	63	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.61	726.6	30.00	761.9	69.4	20.8	74	W	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.65	727.8	29.93	760.2	76.8	24.9	67	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.94	735.0	29.89	759 3	66.9	19.4	61	NW	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.91	759.8	30.02	762.5	81.1	27.3	62	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szatlmar	29.58	751.2	30.02	762.5	75.7	24.3	51	S	.....	.....	1	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.76	755.8	30.02	762.6	78.4	25.8	58	W	.....	.....	1	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.94	760.5	30.04	763.1	80.6	27.0	72	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.31	744.4	30.05	763.2	76.6	24.8	55	E	.....	.....	1	.....	1	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 415 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.84	757.9	62.1	16.7	.....	S	16	7.2	.....	.....	6	.....	.....	0	0	D. clouds.....	W. Boswell.
Ardrossan	29.84	757.9	29.85	758.2	58	14.4	.....	SSW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.66	753.4	29.88	758.9	60.4	15.8	.....	SW	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.93	760.2	58.3	14.6	.....	WSW	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.90	759.4	55.0	12.8	.....	WNW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.92	760.0	56.1	13.4	.....	NW	.....	.....	1	.....	10	.....	.....	0.08	0.2	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	84	28.9	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.86	758.4	29.96	761.0	61.0	16.1	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	H. Todd.
Cardington	.....	.....	29.95	760.7	62.5	16.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.85	758.2	29.98	761.5	59.5	15.3	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper. R. E.
Donaghadee	29.84	757.9	29.88	758.9	60	15.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	29.96	761.0	29.98	761.5	59	15.0	.....	SW	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded..	J. Costello.
Falmouth, Observatory	29.75	755.6	29.97	761.2	59.5	15.3	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	27.82	706.6	30.11	764.8	71.6	22.0	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.02	762.5	71	21.7	.....	Calm?	.....	.....	2?	.....	5	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.83	757.7	60	15.6	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.7	30.00	762.0	78.9	26.1	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H
Glasgow, Observatory	29.62	752.3	29.83	757.7	57.7	14.3	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	29.96	761.0	29.97	761.2	61	16.1	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	Showery.. ...	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.97	761.2	60.0	15.6	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.75	755.6	29.97	761.2	58.5	14.7	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.92	760.0	30.04	763.0	64	17.8	.....	S	.....	.....	2	.....	4k	.....	.....	0.04	1.0	Gloomy.....	M. P. Moyle.
Holyhead	29.92	760.0	29.93	760.2	61	16.1	.....	SSW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.74	755.4	30.03	762.7	60.3	15.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew, Observatory	29.94	760.5	29.98	761.5	61.0	16.1	.....	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.69	754.1	29.94	760.5	58.9	14.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	80	26.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.70	754.4	29.79	756.7	64	17.8	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.03	762.7	84.0	28.9	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.76	755.9	29.95	760.7	61.7	16.5	.....	SW	.....	.....	2	.....	10k	.....	SW	0.032	0.81	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.42	747.3	29.94	760.5	56.0	13.3	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. Stephen J.Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.96	761.0	60	15.6	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	61.2	16.2	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.87	758.7	29.93	761.7	63	17.2	.....	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded....	Wm. Kennedy.
Saint Ann's Head	29.78	756.4	29.94	760.5	56	13.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.82	757.4	59.3	15.2	.....	W	5	2.2	.....	.....	1	.....	.....	.....	.....	Blue sky.....	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.85	758.2	29.91	759.7	67.0	30.6	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't W. H.Lyne.
Sheffield	29.70	754.4	29.96	761.0	61.8	16.6	.....	SW	.....	.....	2	.....	10	.....	.....	0.06	1.5	Overcast.....	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	62.7	17.1	76	W	.....	.....	1	.....	7	.....	.....	0.072	1.83	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.92	760.0	58.7	14.8	.....	SSW	5	2.2	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.78	756.4	30.00	762.0	59.2	15.1	.....	S	.....	.....	1-2	.....	10	.....	.....	.....	.....	Drizzling	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.99	761.7	30.00	762.0	62	16.7	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	W.Newcombe.
Valencia, Observatory	29.90	759.4	29.92	760.0	60.1	15.6	.....	W	12	5.4	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.26	768.6	30.30	769.6	59.8	15.4	82	S	6.6	3.0	.....	0	1	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.02	762.5	36	2.2	85	SW	.....	.....	2	.....	5k	.....	.....	0.01	0.3	....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.88	758.9	60.0	15.6	.....	W	.....	.....	2	.....	10k	.....	.....	0.04	1.0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.94	760.5	30.13	765.3	72.5	22.5	67	SE	19.0	8.5	.....	0	4	.....	SE	0	0	Squally	C. Meiddrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	48.0	8.9	78	S	6	2.7	.....	.....	10	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10', E. 29° 05'	.....	.....	29.97‡	761.2‡	75	23.9	.....	NE	.....	.....	5	.....	3	.....	.....	.....	.....	Squally.....	Capt. W. J. L. Wharton.
Agnes Wilson, N. 48° 00', W. 15° 05'	.....	.....	30.12	765.0	60	15.6	.....	NNW	.....	.....	3	.....	9	.....	.....	3	WNW	Overcast.....	Capt. H. W. Dyke.
Atmosphere, N. 41° 20' W. 58° 30'	.....	.....	30.14	765.5	70	21.1	.....	E	.....	.....	3	.....	10	.....	.....	5	SW	Drizzling.....	.....
Astarte, N. 58° 35', W. 1° 08'.....*	.....	.....	29.83‡	757.7‡	57.8	14.3	.....	SSE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Parson.
Barque Commewyne, N. 35° 00', W. 55° 25'	.....	.....	30.30	769.6	78.5	25.8	.....	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. A. Buchan.
Theophane, N. 0° 0', W. 19° 49'	.....	.....	30.02‡	762.6‡	79	26.1	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fednima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these reading were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.17	664.7	29.89	759.2	67.6	19.8	91	SE	.....	.....	1	4cs	.....	.....	.....	0.9	23.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.5	29.83	757.7	63.0	17.7	61	NW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Farôe	29.89	759.3	29.91	759.8	61.3	16.3	77	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.89	759.3	29.94	760.4	43.7	6.5	87	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.78	756.4	29.82	757.5	48.6	9.2	70	NE	.....	.....	7	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Farôe)	29.73	755.1	29.76	756.0	56.5	13.6	76	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.73	755.1	29.84	757.9	58.6	14.8	83	WSW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.5	30.02	762.5	69.8	21	72	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.87	758.7	29.98	761.4	74.5	23.6	56	W	.....	.....	1	.....	5	.....	E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.70	754.4	29.95	760.7	65.8	18.8	59	W	.....	.....	1	.....	.....	.....	W	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.96	761.0	30.04	763.0	83.1	28.4	54	SSW	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.30	746.6	29.92	760.0	78.1	25.6	52	S	.....	.....	1	.....	5kn	.....	W	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.72	755.0	29.98	761.5	70.0	21.1	73	NW	.....	.....	1	.....	10	.....	SW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.13	740.0	29.90	761.7	79.2	26.2	56	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.9	30.10	764.6	82.8	28.2	50	S	.....	.....	5	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.41	747.0	29.94	760.5	69.8	21	73	SW	.....	.....	1	.....	5n	SW	SW	.....	.....	Thunder-storm.	M. Gence, Director.
Brest, Naval Observatory	29.71	754.5	29.95	760.7	61.5	16.4	85	SW	.....	.....	2	.....	10	.....	SW	0.010	0.25	Rain & fog	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.59	751.5	29.98	761.6	76.3	24.6	61	NE	.....	.....	1	.....	10	W	W	0	0	Covered	September, Dir.
Caen, Normal School	29.95	760.6	30.02	762.5	65.3	18.5	58	N	.....	.....	1	.....	.....	.....	SW	0	0	.....	Lair, Director.
Chartres, Normal School	29.42	747.3	29.96	761.0	79.3	26.3	79	W	.....	.....	1	.....	10	.....	W	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.72	754.8	30.02	762.6	75.9	24.4	44	S	.....	.....	1	.....	5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.58	726.0	29.85	758.1	85.6	29.8	35	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.15	740.3	29.97	761.2	75.6	24.2	59	W	.....	.....	2	.....	2ck	W	W	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.98	736.2	30.13	765.2	80.6	27	33	SW	.....	.....	2	.....	2	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.26	743.2	29.99	761.8	80.6	27.0	58	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	29.80	757.0	30.01	762.8	72.0	22.2	69	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.69	754.2	29.99	761.7	74.1	23.4	68	S	.....	.....	1	.....	5	W	SW	0	0	Cloudy	Pourrier, Director.
Lons-Le-Saulnier, N.School	29.14	740.1	30.02	762.6	75.7	26.5	59	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.95	760.6	30.04	763.1	68.0	20.0	65	WSW	.....	.....	2	.....	.....	.....	WSW	0	0	.....	Lt.T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Galzin, Director.
Marseilles, Observatory	29.79	756.7	30.06	763.4	79.7	26.5	47	SW	.....	.....	1	.....	1	.....	WSW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.94	735.0	29.93	760.3	77.7	25.4	65	S	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	Barbier, Director
Mont-Louis	25.00	635.1	30.32	770.1	71.6	22.0	52	E	15.0	6.7	.....	.....	5	.....	WNW	0	0	.....	M. Cave.
Nismes, Normal School	29.85	758.2	30.05	763.2	83.1	28.4	36	S	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.99	754.2	72.3	22.4	63	Calm	.....	.....	0	.....	10	.....	SW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.71	576.8	.....	.....	60.4	15.8	.....	WSW	.....	.....	3	.....	7	.....	.....	0.217	5.5	Threatening.	Gen'l de Nansouty.
Perpignan	29.92	759.9	30.02	762.5	72.3	22.4	74	E	7.4	3.3	.....	.....	7	N	.....	0.126	3.2	Thunder-storm.	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.96	642.4	.....	.....	60.8	16.0	67	WSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.97	761.2	30.00	762.0	79.9	26.6	56	W	.....	.....	1	.....	5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.90	759.4	29.98	761.6	65.8	18.8	64	NW	.....	.....	1	.....	10	.....	SW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.95	760.7	29.98	761.5	64.9	18.3	74	N	.....	.....	2	.....	8	NW	NW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.1	29.97	761.3	71.6	22.0	65	NE	.....	.....	0–1	.....	10	WSW	SSW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.01	736.9	30.07	763.8	66.2	19	81	W	.....	.....	1	.....	2	SW	SSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.29	744.0	30.01	762.3	81.0	27.2	52	SSE	.....	.....	2	.....	2	.....	.....	0.322	8.2	.....	M. Julier Mercadier.
Tours	29.76	756.0	29.96	761.0	76.3	24.6	53	W	.....	.....	1	.....	7	.....	W	0	0	.....	Cousin-Marquet.
Versailles, Observatory	29.49	749.0	29.98	761.5	72.0	22.2	55	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.29	744.0	29.97	761.1	85.6	29.8	48	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.37	746.0	29.95	760.7	84.6	29.2	45	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Ch. André, Director.
Nice	.....	.....	30.09	764.3	77.7	25.4	70	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.69	754.1	29.71	754.7	81.3	27.4	85	SSE	6.9	3.1	.....	6ck	.....	SW	.....	0	0	Cloudy	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,686.40 m., or 5,264.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.4	29.99	761.8	73.9	23.3	51	SW			2		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.84	758.0	30.01	762.2	69.1	20.6	51	SW			4		1			0	0		Prof. Dr. Arndt.
Breslau	29.50	749.2	30.03	762.7	68.9	20.5	45	NW			3		1			0	0		Royal University Ob'y.
Carlsruhe	29.56	750.8	29.97	761.2	75.2	24.0	56	W			1		1	SW		1.102	28.0		Albert Sena.
Cassel	29.42	747.3	30.03	762.8	74.1	23.4	44	W			2		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.82	757.5	29.98	761.6	71.8	22.1	50	W			3		7k			0	0		Director Lose.
Emden			29.98	761.5	61.5	16.4	95	NW			1		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.64	752.8	30.00	762.0	73.9	23.3		SW			1		4			0	0		Physical Society.
Freienwalde on the Oder	29.94	760.4	29.98	761.4	70.0	21.1	57	NW			4		6k	WNW		0	C		Dr. Assmann.
Friedrichshafen	28.59	726.1	29.98	761.4	69.8	21.0	79	SW			3		0			1.154	29.3		M. Wilhelm.
Hamburg	29.92	759.9	29.98	761.6	65.8	18.8	70	SW			4		7k			0	0	Fair.	Captain F. Hegeman
Kiel	29.93	760.1	29.94	760.5	65.1	18.4	58	W			4		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.67	753.6	29.75	755.7	57.7	14.3	81	W			7		8			0.035	0.9		Prof. E. Luther.
Köslin			29.88	758.9	60.8	16.0		NW			6		2			0.031	0.8		H. Müller.
Leipsic Observatory	29.59	751.5	29.99	761.8	73.8	23.2	45	NNW			2		5	W		0	0	Hazy	Prof. Bruhns, Privy Counselor.
Memel	29.61	752.0	29.65	753.2	61.7	16.5	84	W			8		10n						Skalweit.
Munich (München)	28.21	716.5	30.08	763.9	76.1	24.5	50	W			1		2	SW		0	0	Clear.	Dr. C. Lang.
Neufahrwasser	29.82	757.5	29.84	757.9	62.6	17.0	58	WNW			6		3			0	0		A. Lothes:
Posen	29.72	755.0	30.01	762.2	65.5	18.6	48	WNW			6		7			0	0		Dr. Magener.
Strassburg (in Alsace)	29.47	748.5	30.00	761.9	76.8	24.9	51	SE			2		2	W		0	0		Imp. University Observatory.
Stuttgart	29.63	737.4	29.93	760.1	77.0	25.0	50	N			1		3	W		0.437	11.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.53	724.7	29.97	761.3	74.3	23.5	49	Calm	0	0			5ck		W	0	0	Hazy	T. Hopfner.
Wustrow	29.91	759.8	29.94	760.4	63.7	17.6	72	WSW			5		3s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	760.2	29.91	759.7	87.8	30.7		NE			5.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.57	751.0	29.62	752.3	83.0	28.3	74	SW	18.0	8.0			8	SW	SW	0	0		D. clouds.
Deesa	29.19	741.4	29.65	753.1	92.3	33.5	43	SSW	10.1	4.5			2	ESE		0	0		D. clouds.
Bombay	29.63	752.6	29.67	753.6	82.5	28.1	82	NW	16.0	7.2			10		NNW	0.02	0.5		Overcast.
Poona	27.82	706.6	29.66	753.4	79.0	26.1	78	NW					9			0	0		D. clouds.
Lahore	28.77	730.8	29.48	748.8	103.3	39.6	29	W	2.0	0.9			3			0	0		Blue sky
Belgaum	27.16	689.8	29.71	754.5	71.5	21.9	92	W	3.0	1.3			10	W	W	0.26	6.6		Overcast
Roorkee	28.58	725.8	29.45	748.1	85.8	29.9	76	Calm	2.1	0.9			4			1.16	29.5		
Agra	29.00	736.5	29.64	750.4	92.6	33.7	55	N					10		N	0	0		
Nagpur	28.58	726.0	29.62	752.3	79.2	26.2	87	NNE	2.8	1.2			9		SW	0.13	3.3		Gloomy
Lucknow	29.20	741.7	29.57	751.1	85.2	29.6	78	WSW	1.0	0.4			10			0.25	6.4		Overcast
Allahabad	29.30	744.2	29.61	752.1	80.1	26.7	96	Calm	0.9	0.4			9			0.28	7.1		D. clouds
Patna	29.43	747.4	29.60	751.9	87.4	30.8	69	SW	0.3	0.1			8	SW	SW	0.12	3.0		D. clouds
Hazaribagh	27.62	701.6	29.62	752.4	77.8	25.4	86	Calm	8.7	3.9			10			0.73	80.5		Thunder-storm.
Cuttack	29.57	751.0	29.65	753.0	82.6	28.1	83	SSW	1.0	0.4			5			2.23	56.6		D. clouds
Calcutta (Alipore)	29.61	752.2	29.63	752.7	81.2	27.3	91	SE	4.0	1.8			10		SE				Showery
Goalpara	29.25	742.8	29.63	752.6	82.4	28.0	77	Calm	1.7	0.8			4			0.99	25.2		D. clouds
Chittagong	29.59	751.6	29.69	754.1	80.9	27.2	87	Calm	4.8	2.2			8			0	0		
Sibsagar	29.32	744.8	29.66	753.2	86.3	30.2	82	W	1.1	0.5			6			0	0		D. clouds
Jubbulpore	28.26	717.7	29.61	752.2	78.8	26.0	83	Calm	1.7	0.8			8		E	0.14	3.6		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,561 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day. Sibsagar altitude changes to 333 ft., or 101 meters.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.72	754.8	30.17	764.9	83.8	28.8	50	W	2.6	1.1	.....	.....	3	.....	.....	0	0	....	Prof. Giovanni Clodig.
Milan	29.51	749.6	30.01	762.3	86.0	30.0	37	S	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.91	759.7	30.02	762.4	82.9	28.3	46	S	1.8	0.8	.....	.....	3	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	740.0	30.00	762.1	82.2	27.9	34	ESE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.89	759.3	30.08	764.0	75.7	24.3	64	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.15	715.1	29.98	761.6	79.0	26.1	41	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.98	761.4	30.02	762.6	77.9	25.5	61	NE	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.78	756.3	30.02	762.6	86.9	30.5	31	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.97	761.3	30.06	763.4	75.6	24.2	70	W	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.85	758.2	30.03	762.7	86.2	30.1	43	W	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.75	755.7	30.00	761.9	79.9	26.6	40	NNE	18.6	8.3	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.13	739.8	29.97	761.1	85.3	29.6	59	NNW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.89	759.1	30.07	763.8	77.7	25.4	64	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.80	756.8	30.04	763.1	77.0	25.0	61	NE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.00	762.1	79.0	26.1	56	NE	1.3	0.6	.....	.....	1	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.51	749.5	30.07	763.6	84.7	29.3	46	W	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.89	759.2	29.99	759.4	78.9	26.1	83	WSW	5.6	2.5	.....	.....	8cs;ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	79.0	26.1	88	SW	3.6	1.6	.....	.....	2cs	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.76	755.9	29.83	757.7	79.6	26 4	85	N	3.0	1.3	.....	.....	6 ;ks	.....	S	0	0	Fair	The Staff.
Wakayama	29.84	757.9	29.89	759 2	79.0	26.1	88	Calm	0	0	.....	.....	7ck;s	.....	.....	0.010	0.25	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.00	635.0	30.00	761.9	68.1	14.5	76	Calm	.....	.....	0	.....	8	.....	S	0.11	2.8	Cloudy	Prof. L. Perez.
Leon	24.50	622.3	30.11	764.9	65.7	18.7	74	NW	.....	.....	2	2cs	1k	.....	.....	Inap.	Inap.	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.2	30.01	762.2	55.8	13.2	81	NW	2.2	1.0	.....	10c	5k	.....	S	0.004	0.1	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.1	17.3	71	NW	.....	.....	2	2c	0	NE	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.96	761.0	29.97	761.3	74.3	23.5	91	Calm	.....	.....	0	.....	10	.....	W	0.73	18.4	Raining	Prof. M. M. Chàzaro.
San Luis Potosi	24.22	615.2	30.14	765.6	61.3	16.3	60	E	.....	.....	1	2	0	E	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	573.1	30.11	764.8	58.8	14.9	74	NE	.....	.....	2	5ck	0	SE	.....	0	0	½ clouded	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	56.8	13.8	85	Calm	0	0	.....	.....	10k	.....	NE	0	0	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.58	751.2	29.86	758.4	78.9	23.3	98	NE	.....	.....	2	2	7	Calm	NE	1.28	32.5	Stormy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.01	762.2	30.01	762.2	64.0	17.8	.....	WNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.92	760.0	29.98	761.4	.....	.....	.....	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.97	761.1	29.97	761.1	62.8	17.1	.....	WSW	.....	.....	1	.....	.....	.....	.....	0.008	0.2	.....	
Hellevoetsluis	30.00	762.0	30.00	762.0	64.8	18.2	77	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.97	761.3	30.02	762.5	65.7	18.7	72	WSW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen	29.74	755.5	29.80	756.9	60.8	16.0	71	NNW	16.6	7.4			3			0	0		
Brôno	29.80	756.8	29.84	757.8	57.2	14.0	86	Calm	0	0			10			0.008	0.2		
Christiania	29.48	748.7	29.61	752.2	69.8	21.0	72	W	7	3			10			0.028	0.7	Thunder-storm.	
Tromsö	29.74	755.5	29.79	756.6	55.0	12.8	77	N	25	11			8			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations	Corr. Inches	Corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Angra (Azores)	30.19	766.8	30.37	771.5	74.6	23.6	69	ENE	9.8	4.4			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.03	737.4	30.00	762.0	85.5	29.7	27	W	8.1	3.6			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.09	764.3	30.18	766.5	74.7	23.7	62	SW	4.3	1.9			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.5	30.10	764.5	71.4	21.9	53	N	19.9	8.9			0			0	0		The Staff.
Ponta Delgada (Azores)	30.30	769.5	30.37	771.3	74.1	23.4	80	NE	12.5	5.6			3			0.016	0.4		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Corr. Inches	Corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.																			J.C. M. Cabrate, 1st Lt
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos.																			H. de C. C. e Athayde.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island.			29.98	761.6	79.2	26.2		NE			2		10		NE	1	NE	Drizzling. 12 hr's rain.]	A. A. A. Loureiro.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello																			H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China.			29.76	756.0	86.2	30.1		SW			2		6		SW	1	SW	Raining. 1 hr's rain.]	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations	Corr. Inches	Corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Warsaw	29.48	748.9	29.89	759.3	64.6	18.1	51	WNW	20	9			9ks						Astronomical Obs.
Wilna	29.20	741.6	29.61	752.0	57.4	14.1	92	W	11	5			10					Raining	Astronomical Obs.
Dorpat	29.22	742.2	29.45	748.1	65.7	18.7	65	ENE	4	2			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.41	747.1	29.43	747.5	66.2	19.2	72	NW	7	3			10k;	cks;s]					Central Physical Obs.
Kieff	29.15	740.4	29.76	756.0	65.1	18.4	61	W	13	6			10k;cks						Physical Cabinet.
Nikolaiev	29.84	757.9	29.91	759.7	79.5	26.4	41	WSW	13	6			8ks						Kurdakof.
Kertch	29.95	760.7	29.97	761.2	78.3	25.7	67	NNW	9	4			0						Lagorio.
Moscow	28.96	735.6	29.48	748.9	64.4	18.0	78	S	7	3			8ks					Raining	Meteorological Obs.
Lugan	29.52	749.7	29.71	754.6	81.7	27.6	31	E	22	10			5						Meteorological Obs.
Archangel	29.55	750.5	29.57	751.0	70.5	21.4	54	E	13	6			5cs						Capt. Sseliwerstow.
Tiflis	28.40	721.3	29.72	754.9	88.5	31.4	46	NW	22	10			7cs			Blank	Blank		Physical Observatory.
Astrakhan	29.86	758.5	29.78	756.4	75.7	24.3	80	SW	2	1			10n						Capt. Wisganow.
Krotkowo*	29.22	742.1	29.65	753.2	81.9	27.7	37	W	4	2			3k						Cand. Fatjanow.
Kasan	29.32	744.8	29.58	751.2	79.3	26.3	50	SSW	2	1			2						Physical Cabinet.
Ekaterinburg	28.73	729.7	29.63	752.5	80.8	27.1	45	W	4	2			9ck						Meteorological Obs.
Nukuss	29.63	752.6	29.85	758.2	89.4	31.9	40	NNW	7	3			1ks						
Tashkend	28.33	719.5	29.80	756.8	84.9	29.4	55	Calm	0	0			0						Teich, A. M.
Barnaul	29.24	742.8	29.72	754.8	73.6	23.1	64	Calm	0	0			10					Light clouds	Meteorological Obs.
Yeniseisk	29.55	750.6	29.83	757.7	71.1	21.7	75	NNW	2	1			4						Marks.
Irkutsk																			Physical Observatory.
Peking (China)	29.50	749.3	29.64	752.9	85.6	29.8	74	Calm	0	0			5ks					Thunder-storm.	Meteorological Obs.
Nertchinsk																			
Vladivostock	29.71	754.6	29.81	757.1	63.3	17.4	96	SE	40	18			10n					Rain & fog	
Nikolaievsk, on the Amoor.	29.76	755.9	29.85	758.1	63.1	17.3	57	Calm	0	0			0						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations	Corr. Inches	Corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Barcelona, Met. Obs'y	29.92	760.0	30.02	762.5	81.9	27.7	47	S	3.6	1.61			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.06	763.4	30.11	764.8	66.2	19.0	77	NW	3.4	1.51			10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.2			85.1	29.5	41	W	3.5	1.58		0	2			0.039	1.0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.80	706.0	29.85	758.3	93.9	34.4	30	S	6.7	3.00		1c	5	N		0	0		The Staff.
Murcia, Met. Obs'y	29.89	759.2	30.03	762.8	88.5	31.4	48	ENE	4.1	1.83		3	4	N		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	741.9	30.08	764.0	71.2	21.8	61	NW	9.8	4.4			7			0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.92	760.0	29.99	761.6	82.1	27.8	80	ENE	6.0	2.7		3c	1k	E		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.76	755.7	29.81	757.0	84.2	29.0	80	E	2.2	1.0			9n		W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	760.0	30.02	762.4	83.1	28.4	61	WSW	9.6	4.3		0	4		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.87	758.7	29.96	761.0	79.2	26.2	82	SE	4.8	2.13		6kn	6kn	SE	SE	0.010	0.25	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid. 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.1	29.72	755.0	74.8	23.8	.....	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	29.61	752.2	29.67	753.5	72.3	22.4	47	E	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.63	752.7	29.69	754.0	70.9	21.6	67	NE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Stockholm	29.38	746.2	29.56	750.7	64.8	18.2	78	NNW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.48	748.9	29.54	750.4	65.1	18.4	86	NW	.....	.....	6	.....	10	.....	.....	0.004	0.1	.....	
Sub-Series.																			
Upsala	29.47	748.6	29.56	750.8	64.4	18.0	84	N	11.2	5.0	.....	.....	10	.....	NNE	0.412	10.48	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 50° 10', W. 3° 33'	.....	.....	30.03	762.7	58.8	14.9	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.61	726.7	29.96	761.0	60.8	27.1	39	SSW	.....	.....	4	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.41	721.6	29.97	761.2	77.9	25.5	61	NW	.....	.....	2	.....	1	.....	.....	0.394	10.0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, −1.1 mm.; Thermometer, +4.5 Cent.; Relative Humidity, −14 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.99	761.7	78.3	25.7	49	NE	10	8.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.5	85.8	29.9	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.57	751.1	29.69	754.0	80.2	31.8	69	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.09	764.3	30.15	765.8	61	16.1	70	SW	1	0.4	.....	10c	0	SW	.....	0	0	Fair	G. A. Bain.
Charlottetown, P. E. Island	30.10	764.5	30.14	765.5	63	17.2	74	Calm	0	0	.....	2c	2s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.82	757.4	68.3	20.2	86	E	.....	.....	1	.....	10s	.....	.....	0.003	0.08	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.97	761.2	30.13	765.3	57	13.9	64	W	.....	.....	1	0	1s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.08	764.0	30.10	764.5	55	12.8	87	N	7	3.1	.....	10c	0	NW	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.10	764.5	30.16	766.1	58.4	14.7	80	N	1	0.4	.....	5c	0	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	29.01	736.8	29.81	757.2	56	13.3	93	NW	5	2.2	.....	Haze	5ks	NW	NW	0.010	0.25	Fair	James Stewart.
Granton, Ontario	28.70	729.0	29.75	755.6	66	18.9	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	James Grant.
*Halifax, N. S	30.04	763.0	30.15	765.8	60	15.5	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.81	757.2	68.2	20.1	90	SE	.....	.....	1	10ck	0	SE	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.54	750.3	29.86	758.4	67	19.4	79	S	16	7.2	.....	.....	10ks	.....	S	0.05	1.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	68.4	20.2	67	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.71	754.6	29.90	759.4	68	20.0	73	S	9	4.0	.....	5k	5ks	W	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.68	753.6	29.75	755.6	68	20.0	92	S	11	4.9	.....	5k	5ks	S	S	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.08	738.6	29.80	756.9	69.7	20.9	88	E	.....	.....	3	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.12	739.6	29.79	756.7	68	20.0	95	Calm	0	0	.....	.....	Haze	.....	.....	0	0	Hazy	H. Morgan.
Port Hastings, N. S	30.07	763.8	30.11	764.8	61	16.1	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.79	756.7	66	18.9	99	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	M. Payne.
*Quebec, Quebec	29.73	755.1	30.04	763.0	60	15.6	82	NE	.....	.....	1	.....	10n	.....	NE	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.35	745.5	29.79	756.7	63	17.2	97	SE	10	4.5	.....	.....	10s	.....	SE	.....	.....	Thunder-storm	W. H. McIntyre.
St. Andrews, N. B	30.07	763.8	30.12	765.0	58	14.4	87	NE	.....	.....	1	2c	0	NW	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.98	761.5	30.14	765.5	61	16.1	77	E	1	0.4	.....	7ck	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.65	737.9	29.73	755.1	67	19.4	94	S	6	2.7	.....	.....	10ks	.....	S	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	28.98	736.1	29.72	754.9	70	21.1	75	SE	3	1.3	.....	10k	0	W	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.55	725.2	29.75	755.6	66.0	18.9	99	S	5	2.2	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.08	764.0	30.12	765.0	66	18.9	55	NW	2	0.9	.....	2c	0	Calm	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.43	747.5	29.80	756.9	66	18.9	95	SE	6	2.7	.....	.....	8n	.....	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.11	764.8	30.21	767.3	69.0	20.6	63	W	1	0.4	.....	4ck	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock	28.75	730.2	29.76	755.9	69.8	21.0	90	Calm	0	0	.....	0	10ks	.....	W	0	0	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.01	762.2	58.0	14.4	.....	SW	.....	.....	.....	10c	10s	.....	.....	0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.76	755.9	29.98	761.5	67	19.4	69	S	2	0.9	.....	.....	10s	.....	S	0.20	5.1	Cloudy	
Alpena, Michigan	29.08	738.6	29.69	754.1	68	20.0	74	SW	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	45	7.2	100	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Atlanta, Georgia	28.79	731.3	29.88	758.9	74	23.3	85	SW	7	3.1	.....	.....	10s	.....	Calm	0.42	10.7	Cloudy	
Atlantic City, New Jersey	29.90	759.4	29.91	759.7	72	22.2	100	S	6	2.7	.....	.....	Fog	.....	Calm	0.46	11.7	Foggy	
Augusta, Georgia	29.78	756.4	29.97	761.2	77	25.0	91	SW	4	1.8	.....	.....	10s	.....	SW	0.51	13.0	Cloudy	
Baltimore, Maryland	29.86	758.4	29.90	759.4	76	24.4	91	S	6	2.7	.....	5k	8s	SW	SE	0.89	22.6	Threatening	
Barnegat, New Jersey	29.89	759.2	29.91	759.7	67	19.4	100	E	5	2.2	.....	.....	Fog	.....	E	2.16	54.9	Foggy	
Bismarck, Dakota	28.18	715.8	30.03	762.7	56	13.3	75	NW	12	5.4	.....	2c	0	Calm	.....	0.10	2.5	Fair	
Boerne, Texas	28.56	725.4	29.81	757.2	76	24.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.15	689.6	30.11	764.8	60	15.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.89	759.2	30.04	763.0	62.5	16.9	92	NE	10	4.5	.....	.....	10n	.....	SE	Inap.	Inap	Light rain	
Brackettville, Texas	28.83	732.3	29.81	757.2	79	26.1	62	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.88	733.5	29.85	758.2	54	12.2	93	NW	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Brownsville, Texas	29.87	758.7	29.92	760.0	83	28.3	75	SE	4	1.8	.....	2k	0	SE	.....	0	0	Clear	
Buffalo, New York	29.11	739.4	29.76	755.9	73	22.8	85	SW	3	1.3	.....	.....	10s	.....	SW	0.07	1.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	77	25.0	31	S	.....	.....	1	2ck	0	SW	.....	0	0	Clear	
Burlington, Vermont	29.67	753.6	29.95	760.7	67	19.4	69	S	9	4.0	.....	5cs	2ks	W	S	Inap.	Inap.	Fair	
Cairo, Illinois	29.49	749.0	29.85	758.2	80	26.7	82	NW	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Campo, California	27.28	692.9	29.86	758.4	51	10.6	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	81	27.2	83	SW	20	8.9	.....	5cs	0	W	.....	Inap.	Inap.	Fair	
Cape Henry, Virginia	29.92	760.0	29.93	760.2	78	25.6	86	S	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.02	762.5	82	27.8	79	SW	24	10.7	.....	8cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.87	758.7	29.90	759.4	73	22.8	90	S	14	6.3	.....	5ck	2ks	W	W	0.32	8.1	Fair	
Castroville, Texas	29.19	741.4	29.86	758.4	81	27.2	70	S	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	29.93	760.2	29.99	761.7	84	28.9	75	SW	13	5.8	.....	0	5s	.....	W	0.15	3.8	Fair	
Charlotte, North Carolina	29.09	738.9	29.87	758.7	74	23.3	95	S	8	3.6	.....	.....	10s	.....	S	0.10	2.5	Cloudy	
Chattanooga, Tennessee	29.12	739.6	29.87	758.7	78	25.6	82	S	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	53	11.7	86	NE	1	0.4	.....	.....	10s	.....	NE	0.22	5.6	Threatening	
Chicago, Illinois	29.13	739.9	29.78	756.4	70	21.1	66	SW	4	1.8	.....	2ck	0	SW	.....	0.04	1.0	Clear	
Cincinnati, Ohio	29.18	741.1	29.78	756.4	79	26.1	50	W	4	1.8	.....	.....	10s	.....	W	Inap.	Inap.	Threatening	
Cleveland, Ohio	29.09	738.9	29.77	756.1	72	22.2	90	E	4	1.8	.....	.....	10s	.....	S	0	0	Threatening	
Coleman City, Texas	28.21	716.5	29.79	756.7	78	25.6	86	N	3	1.3	.....	2ck	5s	E	SE	0	0	Cloudy	
Columbus, Ohio	28.95	735.3	29.73	755.1	74	23.3	86	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Concho, Texas	28.08	713.2	29.65	753.1	82	27.8	63	SW	8	3.6	.....	5k	8cs	Calm	S	0	0	Fair	
Corsicana, Texas	29.50	749.3	29.94	760.5	83	28.3	67	SW	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.24	742.7	29.86	758.4	68	20.0	70	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Deadwood, Dakota	25.53	648.4	.....	.....	50	10.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.16	740.7	29.92	760.0	74	23.3	96	N	6	2.7	.....	.....	10ks	.....	N	0.84	21.3	Cloudy	
Denver, Colorado	24.94	633.5	30.16	766.1	56	13.3	81	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Des Moines, Iowa	29.05	737.9	29.90	759.4	64	17.8	73	NW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Detroit, Michigan	29.12	739.6	29.75	755.6	70	21.1	90	W	4	1.8	.....	.....	10n	.....	W	0.01	0.3	Light rain	
Dodge City, Kansas	27.53	699.2	29.76	755.9	64	17.8	89	NE	4	1.8	.....	2ck	5ks	NW	W	0	0	Fair	
Dubuque, Iowa	29.15	740.4	29.82	757.4	66	18.9	74	SW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Duluth, Minnesota	29.05	737.9	29.69	754.1	63	17.2	83	W	8	3.6	.....	0	2s	.....	Calm	0.02	0.5	Fair	
Eagle Pass, Texa	29.17	740.9	29.86	758.4	83	28.3	60	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.06	763.5	30.12	765.0	58	14.4	76	SW	1	0.4	.....	8c	0	Calm	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	84	28.9	87	SE	.....	.....	4	5c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.21	665.7	.....	.....	76	24.4	56	E	11	4.9	.....	.....	10s	.....	E	0	0	Cloudy	
Erie, Pennsylvania	29.08	738.6	29.75	755.6	75	23.9	86	S	3	1.3	.....	5ck	2s	W	Calm	0	0	Cloudy	
Escanaba, Michigan	29.07	738.4	29.69	754.1	66	18.9	74	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.31	719.1	29.91	759.7	89	31.7	47	E	4	1.8	.....	5ck	2s	SE	Calm	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.97	710.4	.....	.....	54	12.2	79	SW	2	0.9	.....	5cs	Sm'e	NW	Calm	0	0	Fair	
Fort Davis, Texas	25.22	640.6	30.18	766.6	70	21.1	61	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.42	747.3	29.94	760.5	73	22.8	85	NW	3	1.3	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Fort Grant, Arizona	25.25	641.3	30.05	763.3	72	22.2	54	E	4	1.8	.....	2ck	5ks	Calm	SW	Inap	Inap.	Fair	
Fort Griffin, Texas	28.78	731.0	30.00	762.0	74	23.3	81	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.53	699.2	.....	.....	53	11.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.73	704.3	29.54	750.3	78	25.6	65	S	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.90	759.4	71	21.7	90	NW	10	4.5	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Fort Stevenson, Dakota	28.13	714.5	.....	.....	55	12.8	80	W	4	1.8	.....	4c	0	W	.....	0.05	1.3	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	75	23.9	48	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.24	717.3	29.71	754.6	83	28.3	53	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	761.7	83	28.3	75	SW	10	4.5	.....	2c	2ks	Calm	SW	Inap.	Inap.	Fair	
Graham, Texas	28.94	735.1	29.96	761.0	74	23.3	81	N	12	5.4	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Grand Haven, Michigan	29.14	740.1	29.75	755.6	71	21.7	75	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.09	738.9	29.98	761.5	74	23.3	81	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Threatening	
Indianapolis, Indiana	29.03	737.3	29.76	755.9	75.5	24.2	79	Calm	0	0	.....	0	5s	.....	SW	0	0	Fair	
Indianola, Texas	29.96	761.0	29.99	761.7	82	27.8	83	S	7	3.1	.....	5c	1ks	Calm	S	0.06	1.5	Fair	
Jacksboro, Texas	28.89	733.8	29.98	761.5	74	23.3	86	N	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Jacksonville, Florida	30.03	762.7	30.05	763.3	84	28.9	75	S	8	3.6	.....	2cs	0	Calm	.....	0.04	1.0	Clear	
Keokuk, Iowa	29.26	743.2	29.84	757.9	69	20.6	75	NW	3	1.3	.....	0	0	.....	.....	0.68	17.3	Clear	
Key West, Florida	29.98	761.5	30.02	762.5	84	28.9	71	E	10	4.5	.....	2k	0	E	.....	0.07	1.8	Fair	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	79	26.1	87	SW	16	7.2	.....	8cs	0	SW	.....	0.13	3.3	Fair	
Knoxville, Tennessee	28.93	734.8	29.88	758.9	75	23.9	86	N	8	3.6	.....	.....	10ks	.....	SW	0.17	4.3	Cloudy	
La Crosse, Wisconsin	29.06	738.1	29.76	755.9	65	18.3	78	NW	1	0.4	.....	2k	0	NW	Calm	0	0	Clear	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	73	22.8	59	N	1	0.4	.....	0	2s	.....	.....	0	0	Clear	
Laredo, Texas	29.51	749.5	29.83	757.7	84	28.9	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.13	739.9	29.95	760.7	66	18.9	84	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.58	751.3	29.92	760.0	75	23.9	95	W	8	3.6	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Los Angeles, California	29.47	748.5	29.81	757.2	66.0	18.3	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.26	743.2	29.79	756.7	77	25.0	86	SW	4	1.8	.....	.....	10s;sm'	.....	Calm	0.26	6.6	Cloudy	
Lynchburg, Virginia	29.22	742.2	29.86	758.4	78	25.6	86	SW	2	0.9	.....	.....	10n	.....	SW	0.47	11.9	Light rain	
Madison, Wisconsin	28.81	731.8	29.75	755.6	66	18.9	74	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	28.98	736.1	29.64	752.8	65	18.3	73	W	4	1.8	.....	0	0	.....	.....	0.45	11.4	Clear	
Mason, Texas	28.35	720.1	30.01	762.2	81	27.2	63	SW	6	2.7	.....	2ck	8s	Calm	E	0	0	Cloudy	
Memphis, Tennessee	29.55	750.6	29.87	758.7	75	23.9	95	W	5	1.3	.....	5k	5s	W	SW	0.11	2.8	Cloudy	
Milwaukee, Wisconsin	29.06	738.1	29.75	755.6	67	19.4	69	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Mobile, Alabama	29.97	761.2	30.01	762.2	79	26.1	89	W	5	2.2	.....	.....	10s	.....	W	1.84	46.7	Cloudy	
Montgomery, Alabama	29.75	755.6	29.98	761.5	77	25.0	95	S	5	2.2	.....	.....	10ks	.....	S	0.58	14.7	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.84	732.5	29.77	756.1	75	23.9	86	Calm	0	0	.....	2ck	5s	NW	Calm	0.30	7.6	Cloudy.....	
Mt. Washington, N. H.....	23.94	608.1	30.30	769.6	49	9.4	93	S	20	8.9	.....	.....	10n	.....	S	0.01	0.3	Light rain...	
Nashville, Tennessee.....	29.34	745.2	29.86	758.2	76	24.4	91	Calm	0	0	.....	.....	10s	.....	SW	3.35	85.1	Cloudy.....	
New Haven, Connecticut....	29.86	758.4	29.98	761.5	62	16.7	94	NE	12	5.4	.....	.....	Fog	.....	Calm	0.83	21.1	Foggy	
New London, Connecticut...	29.92	760.0	29.96	761.0	65	18.3	94	NE	5	2.2	.....	.....	10n	.....	NE	0.17	4.3	Light rain...	
New Orleans, Louisiana.....	29.94	760.5	30.00	762.0	81	27.2	78	SW	4	1.8	.....	5cs	2ks	Calm	SW	Inap.	Inap.	Fair	
Newport, Rhode Island.....	29.94	760.5	29.99	761.7	64.5	18.1	92	NE	5	2.2	.....	.....	10n	.....	Calm	0.20	5.1	Light rain...	
New York, New York.....	29.77	756.1	29.94	760.5	64	17.8	94	NE	24	10.7	.....	.....	10s;fg	.....	.....	0.78	19.8	Foggy	
Norfolk, Virginia.....	29.89	759.2	29.94	760.5	80	26.7	82	SW	12	5.4	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
North Platte, Nebraska	27.20	690.9	29.71	754.6	61	16.1	88	NW	4	1.8	.....	8k	2s	NW	NW	0.75	19.1	Cloudy.....	
Olympia, Washington Ter..	29.92	760.0	29.96	761.0	56.0	18.3	97	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska.....	28.84	732.5	29.90	759.4	64	17.8	78	W	3	1.3	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Oswego, New York.....	29.56	760.8	29.87	758.7	66	18.9	79	SE	14	6.3	.....	5c	2s	W	Calm	0.06	1.5	Fair.....	
Pembina, Dakota.....	28.94	735.1	29.76	755.9	52	11.1	93	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pa.....	29.85	758.2	29.99	759.4	69	20.6	90	NE	13	5.8	.....	.....	10s;fg	.....	Calm	0.88	22.4	Cloudy.....	
Phœnix, Arizona.....	28.57	725.7	30.24	768.1	85	29.4	62	W	2	0.9	.....	2cs	0	S	.....	0	0	Fair	
Pike's Peak, Colorado.....	18.02	457.7	30.28	767.8	34	1.1	90	SW	26	11.6	.....	8k	0	SW	.....	0.18	4.6	Cloudy	
Pilot Point, Texas.....	29.06	738.1	29.86	758.4	82	27.8	91	SE	7	3.1	.....	8k	2s	S	SE	0.01	0.3	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	65	18.3	31	W	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania.....	29.01	736.8	29.77	756.1	75	23.9	86	SE	2	0.9	.....	10k	0	Calm	.....	0.71	18.0	Cloudy	
Port Huron, Michigan.....	29.11	739.4	29.73	755.1	70	21.1	90	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portland, Maine.....	30.04	763.0	30.09	764.3	61	16.1	82	NE	5	2.2	.....	10k	0	Calm	....	0	0	Cloudy.....	
Portland, Oregon.....	29.87	758.7	29.94	760.5	65.0	18.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona.....	24.76	628.9	30.12	765.0	64	17.8	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida.....	30.03	762.7	30.05	763.3	80	26.7	78	NE	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Red Bluff, California.....	29.42	747.3	29.76	755.9	74	23.3	47	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.73	755.1	29.94	760.5	80	26.7	78	SE	12	5.4	.....	5c	0	Calm	.....	0	0	Fair.....	
Rochester, New York.....	29.23	742.4	29.82	757.4	72	22.2	80	SE	8	3.6	.....	5ck	Sm'e	SE	Calm	0.27	6.9	Fair	
Roseburg, Oregon.....	29.38	746.2	29.93	760.2	62.5	16.9	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.09	754.1	29.77	756.1	59	15.0	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri.....	29.32	744.7	29.86	758.4	70	21.1	85	NW	11	4.9	.....	0	8ks	.....	NW	0	0	Fair	
St. Marks, Florida.....	30.02	762.5	30.04	763.0	79	26.1	87	SW	7	3.1	.....	0	5s	.....	SW	0.02	0.5	Fair.....	
St. Paul, Minnesota.....	28.94	735.1	29.74	755.4	63	17.2	83	W	4	1.8	.....	.....	10s	....	W	0	0	Cloudy.....	
Salt Lake City, Utah.....	25.61	650.5	29.94	760.5	70	21.1	32	NE	4	1.8	.....	8k	0	W	.....	0	0	Cloudy	
San Antonio, Texas.....	29.28	743.7	29.84	757.9	82	27.8	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.77	756.1	29.84	757.9	64	17.8	89	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.13	739.9	29.76	755.9	72	22.2	90	Calm	0	0	.....	5ck	5ks; fog	S	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey....	29.89	759.2	29.92	760.0	66	18.9	100	E	22	9.8	.....	.....	10n	.....	E	1.94	49.3	Light rain...	
San Francisco, California..	29.80	756.9	29.86	758.4	55	12.8	87	W	4	1.8	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico.....	23.38	593.8	29.92	760.0	62	16.7	56	E	4	1.8	.....	8ck	0	S	....	0	0	Fair	
Savannah, Georgia.....	29.94	760.5	30.03	762.7	81	27.2	83	SW	6	2.7	.....	10ck	0	SW	....	0.04	1.0	Cloudy.....	
Shreveport, Louisiana.....	29.78	755.1	29.93	760.2	79	26.1	91	SW	3	1.3	.....	.....	10s	.....	W	0.69	17.5	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina.	30.00	762.0	30.04	763.0	81	27.2	91	S	16	7.2	.....	8cs	1ks	Calm	S	2.38	60.7	Cloudy.....	
Socorro, New Mexico.....	23.46	646.7	29.52	749.8	73	22.8	55	S	3	1.3	.....	2ck	8s	S	Calm	0	0	Cloudy.	
Springfield, Ill	29.25	742.9	29.91	759.7	66	18.9	79	NW	6	2.7	.....	1ck	0	W	.....	0.10	2.5	Clear.....	
Springfield, Massachusetts	29.89	759.2	30.01	762.2	64	17.8	78	NE	7	3.1	.....	.....	10n	.....	NE	Inap	Inap.	Light rain...	
Stockton, Texas.....	26.92	683.8	29.92	760.0	80	26.7	25	SE	12	5.4	.....	5k	0	E	.....	0	0	Fair	
Thatcher's Island, Mass.....	30.05	763.3	30.10	764.5	63	17.2	78	E	12	5.4	.....	.....	10s	....	E	0	0	Cloudy.....	
Toledo, Ohio, ...	29.10	739.1	29.74	755.4	72	22.2	85	W	4	1.8	.....	2ck	5s	SW	SW	0	0	Threatening	
Tucson, Arizona.....	27.41	696.2	29.96	761.0	84	28.9	50	SE	6	2.7	.....	0	8s	.....	E	0.03	0.8	Cloudy.....	
Umatilla, Oregon..... ...	29.61	752.1	30.08	764.0	68.0	20.0	51	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Uvalde, Texas.....	29.05	737.9	29.83	757.7	80	26.7	74	SE	3	1.3	.....	0	1s	.....	SE	0	0	Clear.....	
Vicksburg, Mississippi.....	29.70	754.4	29.95	760.7	79	26.1	87	SW	8	3.6	.....	.....	10s	.....	SW	0.12	3.0	Cloudy.....	
Virginia City, Montana.....	24.30	619.5	29.87	758.7	50	10.0	58	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.38	746.2	29.73	755.1	67	19.4	55	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.78	756.4	29.89	759.2	78	25.6	86	S	7	3.1	.....	.....	10ks	.....	SW	0.22	5.6	Cloudy.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	72	22.2	46	S	.....	.....	1	0	0	....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	29.92	760.0	29.99	761.7	79	26.1	91	SW	5	2.2	.....	.....	10s	....	Calm	1.35	34.3	Cloudy.....	
Winnemucca, Nevada.....	25.66	651.5	30.01	762.2	60	15.6	34	E	14	6.3	.....	0	0	....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.97	761.2	30.01	762.2	65	18.3	94	SE	14	6.3	.....	.....	10s	....	Calm	0.14	3.6	Threatening	
Yankton, Dakota.....	28.72	729.5	29.97	761.2	63	17.2	72	W	1	0.4	....	0	0	....	.....	0	0	Clear.....	
Yuma, Arizona.....	29.52	749.8	29.68	753.9	81	27.2	55	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A...	25.16	639.0	.....	.....	68.0	20.0	76	Calm	.....	.....	0	4k;cs	2ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.....	29.86	758.4	29.94	760.5	81	27.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.95	760.7	81	27.2	83	SE	.....	.....	2	3c	5k	E	....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m; Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.98 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.86 in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

1879—July 26.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡			82	27.8	91	SW	5	2.2			10		SW	0.56	14.2			Showery	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.83‡	757.7‡			79	26.1	86	Calm			0		2k		N	0	0			Fair	
Adams. Mare I'd, Navy Yard, Cal.	29.86‡	758.4‡			60	15.6	94	SSW			2		10		SSW					Cloudy	
Alliance, Copenhagen, Denmark	29.84‡	757.9‡			64	17.8	62	NW			3–4		6		NW					Squally	
Colorado New York, N. Y.	29.93‡	760.2‡			65	18.3	100	NE	10	4.5			0			1.16	29.5			Rainy	
Constellation, Off Isles of Shoals, N. H.	30.07‡	763.8‡			57	13.9	94	NE			3		10		NE	Light	Light			Threat'ing	
Constitution, Navy Yard, Brooklyn, N.Y.	29.96‡	761.0‡			64	17.8	100	ENE			3		10		ENE					Rainy	
Enterprise, Cronstadt, Russia	29.45‡	748.0‡			64	17.8	89	Calm			0		5?		NW	Blank	Blank			Clear?	
Essex, Buenos Ayres, Argentine Rep., S. A.	29.94‡	760.5‡			52	11.1	93	NNE			5		8		NE			Mod'ate	N	Fair	
Franklin. Norfolk, Va.	29.93‡	760.2‡			78	25.6	86	SW	12	5.4			10		SW	0.2	5.			Cloudy	
Hartford S. 32° 00′, W. 47° 00′	30.08‡	764.0‡			69	20.6	85	NNE			5		5?		NNE	0	0	Long	S	Cloudy?	
Independence, Mare I'd. Navy Yard, Cal.	29.86‡	758.4‡			61	16.1	82	SW	3	1.3			2?		SSW					Cloudy?	
Kearsarge, N. 46° 39′, W. 53° 54′	29.97‡	761.2‡			59	15.0	59	NW			3		5?		NW			Long	NW	Clear?	
Michigan, Lake Michigan	29.69‡	754.1‡			59.5	15.3	??	SSW			4		0					Light	SSW	Clear	
Monocacy. Shanghai, China	29.70‡	754.4‡			83	28.3	87	SSE			2		5		SSE					Fair	
Monongahela, Yokohama, Japan	29.82‡	757.4‡			80	26.7	96	W			2		k			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.01‡	762.2‡			81	27.2	83	SSW	14	6.7			8		SW	0	0			Fair	
Onward, Callao, Peru	29.97‡	761.2‡			62	16.7	83	SE			3		10					Long	W	Misty	
Palos. Shanghai, China	29.73‡	755.1‡			81	27.2	91	SE			2		8							Fair	
Passaic, Washington, D. C.					78	25.6	86	SW			1		5		NE					Fair	
Pensacola, Callao, Peru	29.94‡	760.5‡			62	16.7	83	SE	4	1.8			10					Smooth		Overcast	
Portsmouth. Boston, Mass.	30.06‡	763.5‡			62	16.7	88	E			1		10		Calm					Drizzling	
Powhattan, Navy Yard, League Isl., Pa.	29.91‡	759.7‡			71	21.7	95	NE			2		10		Calm	1.4	36.			Cloudy	
Quinnebaug, Constantinople, Turkey	29.96‡	761.0‡			77	25.0	57	NE			5		0							Clear	
Ranger, Foochow, China	29.84‡	757.9‡			85	29.4	91	SSW			3		8					Smooth		D. clouds	
Richmond, Yokohama, Japan	29.82‡	757.4‡			82	27.8	75	W			2		2		SW			Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.93‡	760.2‡			79	26.1	74	SE			1		2		S	0	0			Fair	
Santee, Annapolis, Md.	29.91‡	759.7‡			79	26.1	82	SW			2		8		SW	0.14	3.6			Cloudy	
Saratoga, Gardner'sBay, LongI'd., N.Y	29.97‡	761.2‡			64	17.8	100	E			5		10		NW	Heavy	Heavy			Foggy	
St. Louis, League Island, Pa	29.91‡	759.7‡			71	21.7	90	ENE	9	4.0			10		E	0.95	24.1			Drizzling	
Trenton, Copenhagen, Denmark	29.84‡	757.9‡			65	18.3	63	NW			3–4		5		WNW	0	0	Smooth		Fair	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.93‡	760.2‡			58	14.4	100	SW			1–2		10		Calm	0	0	Smooth		Overcast	
Vandalia, Chester, Penn	29.96‡	759.4‡			72	22.2	95	NE			3		10		E					Cloudy	
Wabash. Boston, Mass	30.07‡	763.8‡			66	18.9	68	NE	6	2.7			10							Drizzling	
Wyoming, Phalerum Bay, Greece	29.93‡	760.2‡			83	28.3	33	NNE			3–5		0					Smooth	NNE	Clear	
Wachusett, New Orleans, La	30.01‡	762.2‡			80	26.7	91	SW			2		8		W					Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S.S. City of Panama																			Capt. Berry.
S.S. City of Peking																			Capt. Dearborn.
S.S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 38° 21', W. 120° 08'..†		29.84‡	757.9‡	68	14.4	94	WNW			6		10		NW	0	Short Heavy	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 29° 27', W. 175° 27'.		30.16‡	766.6‡				SE			1				W		Mod'ate	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 42° 12', W. 178° 06'..†.		30.00‡	764.3‡	67	19.4	95	SW			4		Fog			0	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 46° 47', W. 168° 16'...†.		30.29‡	769.4‡	52	11.1	100	NE			4		8		NE	0	Smooth	NE	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. O. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 37° 34', W. 70° 37'....		30.03‡	762.7‡	74.6	23.6	??	SW			6		10		SW	12h'rs	Mod'ate	SW	Drizzling	S. Rinius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 43° 39', W. 44° 31'.		30.08‡	764.0‡				WSW			6		8		W		6	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 29′, W. 68° 44′		29.94‡	760.5‡	75	23.9	86	E			3		3		SE	0	Light	S	Cloudy†	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 39° 02′, W. 72° 53′		29.88‡	758.9‡	76	24.4	91	SW	3	1.3			Fog			0.02 in. or 0.5 mm	Swell	SSE	Foggy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 39° 45′, W. 72° 37′	†	30.01‡	762.2‡				Calm			0		8				Smooth	ENE	Rainy	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

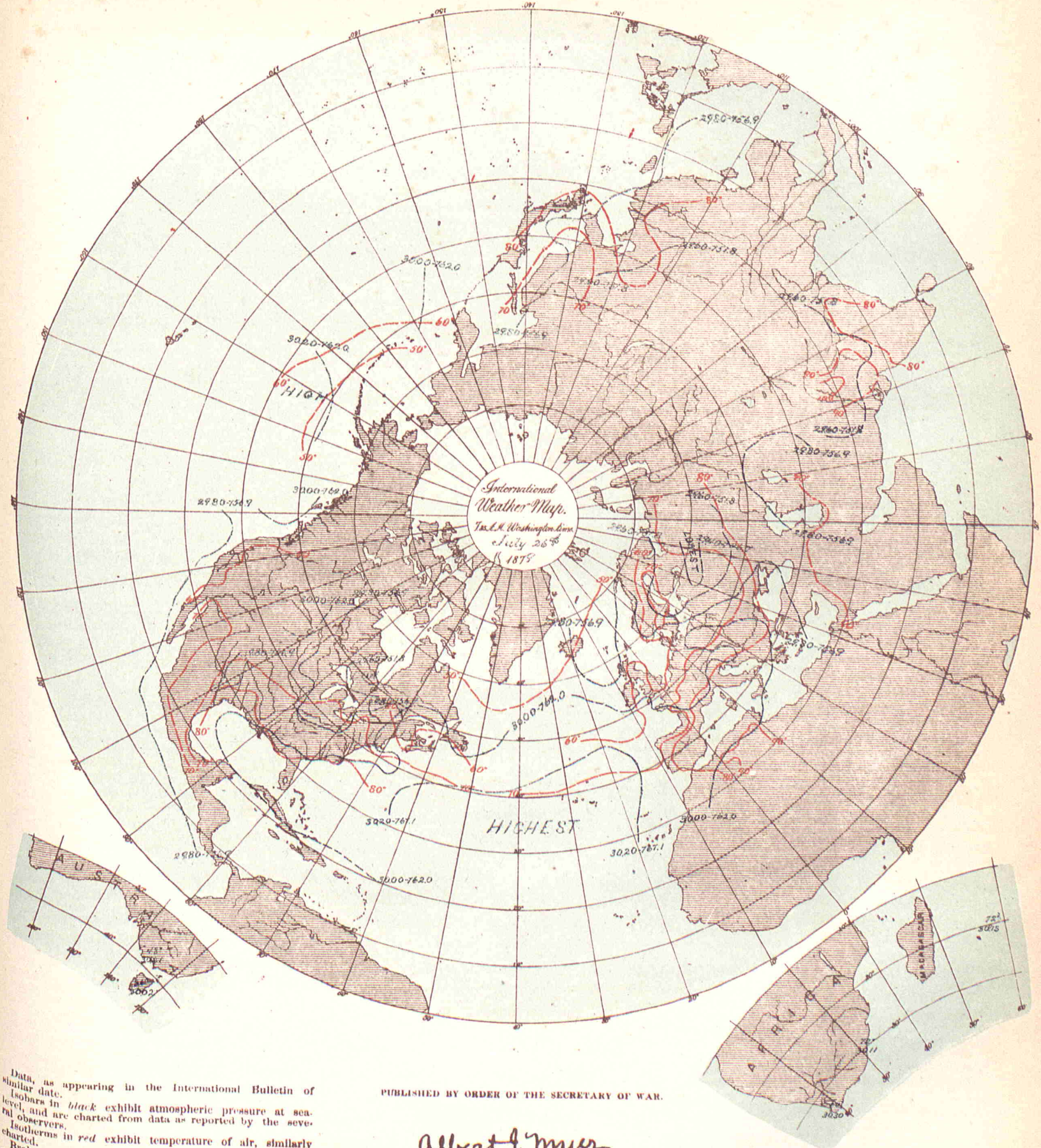
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 120 Pearl St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.04	762.9	69.4	20.8	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.08	764.0	79.3	26.3	78	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.04	763.1	75.9	24.4	81	WSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.08	764.1	78.3	25.7	75	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Saida	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Tebessa	.....	.....	30.03	762.8	94.6	34.8	17	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Geriville	.....	.....	30.08	764.0	91.4	33.0	38	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Laghouat	.....	.....	.....	.....	86.2	30.1	30	WNW	.....	.....	2	.....	0	.....	.....	Inap.	Inap.	Clear	Brugniaux.
Biskra	.....	.....	30.00	761.9	100.0	37.8	29	E	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
.....	.....	.....	30.06	763.4	97.5	36.4	32	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.27	743.5	29.78	756.5	87.6	30.9	33	SW	.....	.....	4	3	.....	.....	.....	0.228	5.8	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.03	737.4	29.76	755.8	81.3	27.4	53	SSW	5.6	2.5	.....	5	.....	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.99	736.4	29.82	757.5	78.8	26.0	54	SE	.....	.....	2	3cs	.....	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.59	726.2	29.78	756.3	75.7	24.3	59	NW	.....	.....	2	8	.....	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.55	725.1	29.89	759.1	82.9	28.3	46	E	.....	.....	2	0	.....	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.62	727.0	29.93	760.3	63.7	17.6	87	WSW	.....	.....	3	10	.....	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.89	733.9	29.84	757.8	76.1	24.5	66	SW	.....	.....	1	0	.....	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.78	756.3	29.88	758.9	87.1	30.6	34	S	.....	.....	1	8	.....	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.49	749.0	29.93	760.1	83.5	28 6	44	S	.....	.....	1	5	.....	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.58	751.2	29.84	757.8	86.0	30.0	41	S	.....	.....	2	0	.....	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.80	756.9	29.90	759.5	81.1	27.3	66	NW	.....	.....	1	7	.....	.....	.....	0.036	0.9	Thunder-storm.	P. Busin.
Vienna	29.15	740.4	29.90	759.4	71.2	21.8	67	NW	.....	.....	4	10	.....	.....	.....	0.465	11.8	.....	I. R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.86	758.4	29.95	760.7	56.9	13.8	.....	S	6	2.7	.....	.....	8	.....	.....	0.120	3.05	Gloomy	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Armagh, Observatory	29.80	756.9	30.02	762.5	55.8	13.2	.....	S	8	3.6	.....	.....	.....	.....	.....	.....	.....	.....	Wm. McNeil & G. Carrick
Bidston (Liverpool Obs)	.....	.....	30.05	763.3	59.0	15.0	.....	WNW	7	3.1	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	30.02	762.5	59.8	15.4	.....	WSW	6	2.7	.....	.....	10	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.07	1.8	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.92	760.0	84	28.9	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.99	761.7	30.09	764.3	66.0	18.9	.....	W	.....	.....	1	.....	7	.....	.....	0	0	D. clouds	H. Todd.
Cardington	.....	.....	30.06	763.5	68.0	20.0	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.97	761.2	30.10	764.5	67.7	19.8	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.97	761.2	30.01	762.2	59	15.0	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.10	764.5	30.12	765.0	66	18.9	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded	J. Costello.
Falmouth, Observatory	29.94	760.5	30.17	766.3	62.4	16.9	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.84	707.1	30.13	765.3	69.0	20.6	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	83	28.3	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.86	758.9	56	13.3	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	81.8	27.7	.....	E	.....	.....	3	.....	4	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.78	756.4	29.98	761.5	57.8	14.5	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.05	763.3	30.06	763.5	65	18.3	.....	WNW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.93	760.2	30.10	764.5	70.0	21.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.97	761.2	30.18	766.6	62	16.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.11	764.8	30.23	767.8	65	18.3	.....	SW	.....	.....	2	.....	2ck	.....	.....	0.09	2.3	Fine	M. P. Moyle.
Holyhead	30.04	763.0	30.04	763.0	59	15.0	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.95	760.7	30.25	768.3	60.0	15.6	.....	WNW	.....	.....	2	.....	9	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	30.06	763.5	30.10	764.5	66.0	18.9	.....	WSW	8	3.6	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.80	756.9	30.04	763.0	64.7	18.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	81.4	27.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.83	757.7	29.92	760.0	59	15.0	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.02	762.5	82.2	27.9	.....	NE	.....	.....	2	.....	8	.....	.....	Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.86	758.4	30.04	763.0	72.7	22.6	.....	S	.....	.....	3	.....	10ck	.....	WSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.53	750.0	30.05	763.3	65.0	18.3	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.10	764.5	60	18.9	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.08	764.0	30.16	766.1	64.1	17.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.00	762.0	30.12	765.0	58	14.4	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.94	760.5	55.8	13.2	.....	W	14	6.3	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.81	757.2	29.87	758.7	87.0	30.6	.....	ENE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.77	756.1	30.04	763.0	67.9	19.9	.....	SW	.....	.....	2	.....	7	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.98	761.5	30.01	762.2	59.6	15.3	77	N	.....	.....	4	.....	7	.....	.....	0.157	3.99	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.04	763.0	60.3	15.7	.....	WSW	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Straifield, Turgiss	29.90	759.4	30.12	765.0	66.7	19.3	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.15	765.8	30.16	766.1	65	18.3	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.85	758.2	29.88	758.9	58.1	14.5	.....	S	22	9.8	.....	.....	10	.....	.....	.....	.....	Drizzling	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.30	769.6	30.34	770.6	56.8	13.8	87	SSE	1.0	0.4	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.12	765.0	38	3.3	84	NW	.....	.....	2	.....	4k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.98	761.5	61.0	16.1	.....	W	.....	.....	2	.....	10ks	.....	.....	0.02	0.5	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.5	71.7	22.1	65	ESE	22.0	9.8	.....	0	2	.....	.....	0.15	3.8	Squally	C. Meldrum.
Melbourne, Observatory	30.19	766.8	30.28	769.1	44.2	6.8	82	SW	4	1.8	.....	.....	8	S	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10′, E. 29° 05′	.....	.....	29.95‡	760.7‡	76	24.4	NE	.....	.....	5	.....	5	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
Algeria, Queenestown, England	.....	.....	30.03	762.7	57	13.9	SSW	.....	.....	3	.....	10	.....	.....	2	.....	Raining	Capt. Wm. Watson.
Agnes Wilson, N. 48° 40′, W. 11° 45′	.....	.....	30.12	765.0	64	17.8	WSW	.....	.....	3	.....	10	.....	.....	3	WNW	Misty	Capt. H. W. Dyke.
Atmosphere, N. 43° 05′ W. 57° 40′	.....	.....	29.93	760.2	60	15.6	ESE	.....	.....	8	.....	10	.....	.....	6	ESE	Raining	.....
Astarte, N. 57° 25′, W. 1° 40′ §.	.....	.....	29.93‡	760.2‡	56.7	13.7	N	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Capt. Parson.
Barque Commewyne, N. 35° 36′, W. 54° 18′	.....	.....	30.32	770.1	79.4	26.3	SSW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Capt. A. Buchan.
Garden Castle, N. 36° 00′, W. 6° 10′	.....	.....	30.04	763.0	73	22.8	NE	.....	.....	3	.....	0	.....	0	2	WNW	Misty	.....
Theophane, N. 1° 50′, W. 20° 55′	.....	.....	29.99‡	761.7‡	79.5	26.4	SE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected, but apparently not reduced to sea-level. ‡Correction for temperature and elevation applied at this office. §The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
San José	26.16	664.4	29.88	758.9	67.1	19.5	95	SE			1	2cs	1d			Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Fahr.	Cent.	Rel. Hum.	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Copenhagen	29.76	756.0	29.81	757.2	63.5	17.5	64	W			4		5						
Fanöe	29.89	759.1	29.91	759.6	58.8	14.9	85	W			4		8						
Godthaab (Greenland)	29.95	760.7	29.99	761.8	40.5	4.7	86	Calm			0		10						
Stykkisholm (Iceland)	29.68	753.8	29.72	754.9	50.7	10.4	91	SE			2		8						
Thorshavn (Faröe)	29.79	756.6	29.82	757.5	57.2	14.0	75	SW			2		5						
Vestervig	29.69	754.2	29.80	757.0	59.9	15.5	84	SW			6		7						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Fahr.	Cent.	Rel. Hum.	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Alençon, Normal School	29.67	753.6	30.22	767.6	68.7	20.4	68	SW			1		8			0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.03	762.8	30.14	765.6	71.6	22	59	NW			1		2		E	0	0	Slightlycl'dy	Bonvallet, Director.
Arras, Engin'r School	29.87	758.8	30.13	765.2	66.6	19.2	49	WNW			2				NW	0.028	0.7		Klein, Commandant.
Avignon, Normal School	29.96	761.0	30.04	763.0	84.9	29.4	40	NNW			1		0			0	0	Very clear...	Giraud, Director.
Bar-sur-Seine.	29.60	751.9	30.14	765.6	69.3	20.7	49	NE			1		8kn		NW	Inap.	Inap.	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.90	759.5	30.16	766.1	68.4	20.2	73	WSW			1		8		NW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.27	743.5	30.14	765.5	72.0	22.2	51	NW			2		5		NW	0.980	24.9	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.26	768.5	71.6	22	66	N			1		5ck	N	N	0.35	9.	Cloudy	Marlot, Director.
Bourges, Normal School	29.60	751.8	30.13	765.4	67.3	19.6	76	NW			1		5ck	NW	NW	0.08	2.	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.94	760.4	30.18	766.6	65.1	18.4	74	WSW			2		9		WSW	0.079	2.00		Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.79	756.6	30.19	766.9	72.3	22.4	62	W			2		10	NW	NW	0.024	0.6	Covered	September, Dir.
Caen, Normal School	30.14	765.6	30.22	767.5	65.1	18.4	77	N			1				W	0	0		Lair, Director.
Chartres, Normal School	29.60	751.8	30.15	765.9	68.0	20	64	NW			1		4		SE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.84	757.9	30.15	765.8	69.8	21.0	50	W			1		10			0	0	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.80	731.5	30.20	767.1	70.3	21.3	46	W			1		5			0.173	4.4		Alluard, Director.
Commercy, Normal School.	29.29	744.0	30.13	765.3	67.3	19.6	51	W			1		8kn	W	W	0.358	9.1	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.95	735.2	30.09	764.2	82.0	27.8	35	NW			5		2		NW	0	0		L. Kiua, Director.
Grenoble, Normal School	29.33	745.0	30.07	763.8	73.8	23.2	58	WNW			1		2k	NE		0.130	3.30	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.89	759.2	30.10	764.6	63.7	17.6	86	W			1		8		WNW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.89	759.3	30.20	767.0	70.2	21.2	63	S			1		5		NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.25	742.9	30.14	765.6	73.4	23	52	N			1		5k		NW	0.220	5.60	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.15	765.8	30.25	768.3	67.3	19.6	72	WSW			1			W	SW	0.020	0.5		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.76	756.0	30.03	762.7	79.0	26.1	54	WSW			1		2		W	Inap.	Inap.		E. Stephan, Director
Mirecourt, Normal School	29.10	739.0	30.11	764.9	68.7	20.4	62	NW			3		8		NW	0.244	6.2	Very cloudy	Barbier, Director
Mont-Louis	25.05	636.2	30.36	771.2	67.1	19.5	67	ENE	15.0	6.7			1		W	0	0		M. Cave.
Nismes, Normal School	29.85	758.2	30.05	763.2	85.3	29.6	33	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.88	759.0	67.1	19.5	57	W			2		5		W	0	0		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.76	578.0			57.2	14.0		W			1		1			0.071	1.8	Clear..	Gen'l de Nansouty.
Perpignan	30.07	763.6	30.17	766.2	74.8	23.8	51	NW	16.8	7.5			1	NW		0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.38	644.7			49.1	9.5	89	W			2		8			0.236	6.0		Alluard, Director.
Rochefort, Naval Obs'y	30.22	767.5	30.25	768.3	69.4	20.8	65	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.09	764.2	30.17	766.4	66.2	19.0	56	W			1		2		NW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.18	766.6	30.21	767.3	63.1	17.3	77	NW			2		8	NW	NW	0.072	1.84	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.07	763.8	30.16	766.0	69.3	20.7	53	N			1		8		WNW	0	0	Cloudy	E. Renou, Director.
Tarbes, Normal School	29.08	738.6	30.14	765.5	69.1	20.6	76	WNW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.56	750.7	30.28	769.2	68.5	20.3	67	NW			3		8			0	0		M. Jullier Mercadier.
Tours	29.92	760.0	30.12	765.0	69.8	21.0	57	WNW			1		8		WNW	0	0		Cousin-Marquet.
Versailles, Observatory	29.71	754.5	30.20	767.0	67.6	19.8	55	NW			2		0			0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S.	29.43	747.6	30.11	764.8	81.1	27.3	85	SE			1		2		SE	0.20	5.	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	79.5	26.4										0.43	11.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.53	750.1	30.13	765.4	73.0	22.8	60	N			1		5		N	0.283	7.2	Cloudy	Ch. André, Director.
Nice			29.94	760.4	77.4	25.2	67	E			3		2			0	0	Slightlycl'dy	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.72	754.8	29.74	755.4	81.5	27.5	83	SE	7.2	3.2		10c		NW		0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.64	737.6	29.88	758.9	69.4	20.8	56	W			4		8	W		0.295	7.5	Raining	Prof. Dr. Hoh.
Berlin	29.69	754.1	29.86	758.4	64.4	18.0	64	N			1		10			0.031	0.8		Prof. Dr. Arndt.
Breslau	29.84	745.2	29.87	758.6	63.5	17.5	83	NW			2		10			0.020	0.50		Royal University Ob's'y.
Carlsruhe	29.64	752.8	30.06	763.5	65.3	18.5	83	NW			1		9	NW		0.169	4.3	Thunder-storm.	Albert Sens.
Cassel	29.43	747.5	30.04	763.0	62.6	17.0	79	NNW			4		10	SW		0.217	5.50		Dr. H. Möhl.
Crefeld	29.88	758.9	30.04	763.0	64.9	18.3	68	NW			4		8			0.08	2.		Director Lose.
Emden			30.08	764.0	64.4	18.0	80	W			1		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.70	754.3	30.06	763.5	69.8	21.0		NW			1		7			0.299	7.6		Physical Society.
Freienwalde on the Oder	29.83	757.6	29.87	758.6	67.5	19.7	67	S			3		7ks	SW		0	0		Dr. Assmann.
Friedrichshafen	28.65	727.7	30.06	763.5	63.1	17.3	85	WSW			5		10	W		0.201	5.1	Heavy rain.	M. Wilhelm.
Hamburg	29.87	758.8	29.95	760.6	63.3	17.4	67	WNW			3		7k;ks			0.051	1.3		Captain F. Hegemann
Kiel	29.90	759.4	29.91	759.8	63.9	17.7	60	WNW			3		4			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.5	29.87	758.6	67.8	19.9	49	W			5		2			0	0		Prof. E. Luther.
Köslin			29.83	757.7	64.6	18.1		W			2		3			0	0		H. Müller.
Leipsic Observatory	29.51	749.6	29.92	760.1	65.3	18.5	71	NW			2		6			0.028	0.7		Prof. Bruhns, Privy Counsellor.
Memel	29.76	755.9	29.81	757.1	62.8	17.1	73	W			6		7cs						Skalweit.
Munich (München)	28.23	717.1	30.10	764.6	56.5	13.6	93	SW			4		10			0.374	9.5		Dr. C. Lang.
Neufahrwasser	29.85	758.1	29.86	758.5	70.2	21.2	55	W			1		9			0	0		A. Lothes.
Posen	29.61	752.2	29.90	759.4	59.5	15.3	99	NW			1		10			0.228	5.8		Dr. Magener.
Strassburg (in Alsace)	29.56	750.9	30.10	764.5	70.0	21.1	56	NW			3		7	NW		0.360	9.15		Imp. University Observatory.
Stuttgart	29.09	738.9	30.02	762.4	63.1	17.3	79	NW			7		6	W		0.177	4.5	Thunder-storm.	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.50	723.8	29.97	761.3	62.8	17.1	79	NW	4	2		8ck			NW	0.197	5.0	Light fog.	T. Hopfner.
Wustrow	29.87	758.7	29.89	759.3	62.6	17.0	77	W			2	7s				0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:6 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.90	759.4	59.1	31.7		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.57	751.0	29.62	752.2	84.0	28.9	69	W	16.0	7.2		4	SSW		0	0	D. clouds		
Deesa	29.17	740.8	29.63	752.5	92.8	33.8	45	W	9.4	4.2		9		E	0	0	D. clouds		
Bombay	29.62	752.4	29.65	753.1	79.9	26.6	93	NNW	4.0	1.8		10		NNW	0.06	1.5	Overcast		
Poona	27.81	706.4	29.67	753.6	74.8	23.8	91	W				9		WNW	0.23	5.8	D. clouds		
Lahore	28.79	731.2	29.49	749.1	103.3	39.6	35	NE	4.2	1.9		5			0	0	D. clouds		
Belgaum	27.15	689.6	29.70	754.4	71.7	22.1	92	WSW	4.0	1.8		10	E	W	0.09	2.3	Raining		
Roorkee	28.74	729.9	29.63	752.5	80.2	26.8	91	Calm	3.0	1.3		6			0.13	3.3			
Agra	29.01	736.9	29.57	751.0	84.7	29.3	51	E				8		E	0	0			
Nagpur	28.55	725.2	29.58	751.4	80.3	26.8	85	W	4.5	2.0		5		E	1.6	40.6	D. clouds		
Lucknow	29.21	742.0	29.58	751.4	84.3	29.1	91	Calm	0.4	0.2		10			0.14	3.6	Overcast		
Allahabad	29.28	743.8	29.59	751.6	87.1	30.6	75	ENE	2.5	1.1		7			0	0	D. clouds		
Patna	29.42	747.3	29.60	751.8	88.2	31.2	73	ESE	0.9	0.4		4	ESE	ESE	0	0	D. clouds		
Hazaribagh	27.63	701.7	29.62	752.2	80.8	27.1	80	SE	7.0	3.1		7		SE	0.07	1.8	Showery		
Cuttack	29.54	750.4	29.62	752.4	86.1	30.1	66	Calm	2.0	0.9		1			0.12	3.0	Blue sky		
Calcutta (Alipore)	29.61	752.2	29.63	752.7	82.7	28.2	87	S	2.0	0.9		5	S		0.03	0.8	Thunder-storm		
Goalpara	29.22	742.2	29.61	752.0	83.4	28.6	77	Calm	0.8	0.4		2			0	0	D. clouds		
Chittagong	29.56	750.7	29.65	753.1	83.9	28.8	84	Calm	2.5	1.1		4			0	0	Misty		
Sibsagar	29.30	744.1	29.63	752.5	84.8	29.3	82	SW	3.4	1.5		10			0.37	9.4	D. clouds		
Jubbulpore	28.24	717.3	29.59	751.6	79.8	26.6	83	Calm	0.6	0.3		10		E	0.36	9.1	Raining		

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.48	748.8	29.88	758.9	83.5	28.6	50	SW	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.37	746.1	29.87	758.7	81.9	27.7	39	SW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.75	755.6	29.85	758.3	82.9	28.3	54	SE	3.8	1.7	.....	.....	5	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.1	29.85	758.2	81.3	27.4	35	SW	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.79	756.7	29.98	761.4	73.0	22.8	68	SE	13.7	6.1	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.01	711.6	29.84	758.0	78.8	26.0	53	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.83	757.6	29.87	758.8	85.5	31.4	27	SW	10.5	4.7	.....	.....	5	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.78	756.2	29.98	761.5	82.4	28.0	35	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.8	30.00	761.9	76.3	24.6	55	WSW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.5	29.99	761.8	85.3	29.6	31	SSW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.70	754.3	29.94	760.5	83.3	28.5	39	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.1	29.94	760.4	87.1	30.6	60	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.84	757.8	30.02	762.5	80.6	27.0	55	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.7	30.04	763.0	77.4	25.2	58	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.95	760.7	86.5	30.3	32	SE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.8	30.04	762.9	80.2	26.8	72	WSW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.89	759.2	29.91	759.7	77.7	25.4	88	E	2.8	1.2	.....	.....	1ck;cs;s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.91	759.7	78.4	25.8	87	SW	0.6	0.3	.....	.....	2ck;s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.86	758.4	29.92	759.9	77.9	25.5	94	ENE	5.8	2.6	.....	.....	10s;ks	.....	.....	2.140	54.36	Cloudy	The Staff.
Wakayama	29.87	758.7	29.92	759.9	80.5	26 9	84	SE	2.9	1.3	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.05	636.3	30.06	763.6	67.6	14.2	76	Calm	.....	.....	0	.....	8	.....	E	0.13	3.2	Cloudy	Prof. L. Perez.
Leon	24.44	620.8	30.08	764.0	63.0	17.2	80	NW	.....	.....	2	2c	2ks	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.05	763.2	55.8	13.2	87	NW	0.7	0.3	.....	4k	0	W	.....	0	0	Fair	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	63.7	17.6	65	NW	.....	.....	2	0	9ks	.....	.....	0	0	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.91	759.7	29.92	760.0	75.9	24.4	95	NW	.....	.....	1	.....	10	.....	S	1.23	31.3	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.1	30.18	766.5	64.0	17.8	78	E	.....	.....	3	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.58	573.5	30.16	766.1	55.8	13.2	72	NE	.....	.....	4	3c	0	SE	.....	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.4	30.17	766.2	51.8	11.0	84	Calm	0	0	.....	2s	0	NE	.....	0	0	Fine	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.03	762.5	29.91	759.8	73.4	23.0	85	SE	.....	.....	4	4	5	Calm	SE	0.08	2.0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.11	764.9	30.11	764.9	64.4	18.0	.....	W	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	29.94	760.5	30.00	761.9	61.7	16.5	.....	NW	.....	.....	1	.....	.....	.....	.....	0.016	0.4	.....	
Helder	30.03	762.7	30.03	762.7	60.4	15.8	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.07	763.8	30.07	763.8	63.5	17.5	76	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.02	762.4	30.07	763.6	67 8	19.9	62	W	.....	.....	4	.....	5	.....	.....	0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.39	754.2	29.75	755.6	59.0	15.0	74	W	7.4	3.3			8			0	0		
Brönö	29.69	754.0	29.72	755.0	59.9	15.5	77	N	9	4			7			0	0		
Christiania	29.43	747.5	29.57	751.0	66.6	19.2	75	NNW	0	0			9			1.787	45.4		
Tromsö	29.79	756.7	29.84	757.8	64.7	12.6	80	NNE	7	3			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.13	765.2	30.31	769.9	75.2	24.0	66	SE	5.6	2.5			2			0	0		Dr. J. A. Sampaio.
Campo Major	29.04	737.6	30.09	761.9	91.2	32.9	26	ESE	6.3	2.8			0			0	0		Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.07	763.6	30.15	765.8	72.9	22.7	60	SW	8.1	3.6			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.1	30.08	763.9	78.1	25.6	47	N	15.0	6.7			0			0	0		The Staff.
Ponta Delgada (Azores)	30.26	768.5	30.32	770.2	78.8	26.0	59	SSE	0	0			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa. Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa				
St. Vincent, Cape Verd Island	1	NNE	Overcast	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello				H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes				
Macao, China	2	SW	Raining. 3 hr's rain.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	747.9	29.85	758.2	71.2	21.8	49	N	2	1			7cks						Astronomical Obs.
Wilna	29.37	746.1	29.78	756.4	64.6	18.1	59	WSW	7	3			9						Astronomical Obs.
Dorpat	29.33	744.9	29.56	750.9	64.8	18.2	64	WNW	7	3			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.54	750.2	29.55	750.6	69.1	20.6	64	NE	9	4			2cs;ks						Central Physical Obs.
Kieff	29.20	741.6	29.81	757.1	70.9	21.6	51	W	9	4			6ck						Physical Cabinet.
Nikolaiev	29.88	758.9	29.95	760.7	83.1	28.4	38	WNW	13	6			3k						Kurdakof.
Kertch	29.97	761.3	29.99	761.8	77.5	25.3	59	WNW	7	3			0						Lagorio.
Moscow	28.94	735.1	29.47	748.4	66.7	19.3	68	E	9	4			6ks						Meteorological Obs.
Lugan	29.57	751.1	29.77	756.1	78.1	25.6	34	WSW	34	15			0						Meteorological Obs.
Archangel	29.61	752.2	29.63	752.7	68.0	20.0	41	NNE	13	6			2cs						Capt. Sseliwerstow.
Tiflis	28.49	723.7	29.52	757.3	88.7	31.5	36	NW	13	6			1k						Physical Observatory.
Astrakhan	29.88	759.0	29.80	756.9	90.0	32.2	32	SW	7	3			4k						Capt. Wisganow.
Krotkowo*	29.14	740.2	29.58	751.4	75.9	24.4	50	SSW	2	1			9ks						Cand. Fatjanow.
Kasan	29.27	743.4	29.52	749.8	76.5	24.7	40	SSW	4	2			5						Physical Cabinet.
Ekaterinburg	28.57	725.7	29.46	748.3	75.2	24.0	66	Calm	0	0			9n;ks						Meteorological Obs.
Nukuss	29.57	751.1	29.79	756.6	90.7	32.6	30	NNW	7	3			5ks						
Tashkend	28.22	716.8	29.67	753.7	90.3	32.4	60	Calm	0	0			0						Teich, A. M.
Barnaul	29.31	744.4	29.78	756.3	76.5	24.7	56	SE	0	0			10					Light clouds	Meteorological Obs.
Yeniseisk	29.51	749.6	29.79	756.6	73.2	22.9	63	W	9	4			5						Marks.
Irkutsk																			
Peking (China)	29.44	747.7	29.58	751.3	86.0	30.0	84	Calm	0	0			2ks						Physical Observat ory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.74	755.4	29.84	757.9	64.4	18.8	98	SE	25	11			10n					Rain & fog	
Nikolaievsk, on the Amoor	29.73	755.2	29.82	757.4	64.8	18.2	79	Calm	0	0			0						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.99	761.7	30.09	764.3	79.2	26.2	64	ESE	3.8	1.72			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.22	767.6	30.28	769.0	71.2	21.8	69	NW	2.0	0.89			10			0.138	3.5	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	692.0			68.4	20.2	60	NE	11.5	5.16		0	0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.6	29.90	759.4	98.6	37.0	17	S	6.0	2.67		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.04	763.0	89.6	32.0	46	SE	5.8	2.61		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.08	764.1	71.4	21.9	54	NE	18.6	8.3			0			0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.2	29.99	761.8	80.9	27.2	81	E	3.1	1.4		8c	0	NNW		0.134	3.4	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.8	29.81	757.2	85.9	29.9	74	NW	7.2	3.2		2cs	3kn	E	W	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.6	30.04	763.0	81.3	27.4	54	WNW	7.0	3.1		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.8	30.00	762.1	83.8	28.8	72	E	7.0	3.15		4kn	3kn	E	E	0.197	5.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 660 meters or 2,522 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.78	756.4	29.82	757.4	63.7	17.6	.....	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Umea	29.72	754.8	29.77	756.1	69.8	21.0	57	NE	.....	.....	6	.....	1	.....	.....	0	0	.....	
Hernosand	29.66	753.2	29.71	754.5	67.6	19.8	61	NE	.....	.....	7	.....	2	.....	.....	0	0	.....	
Stockholm	29.48	748.9	29.66	753.4	64.4	18.0	82	Calm	.....	.....	0	.....	9	.....	.....	0.148	3.7	.....	
Wisby	29.60	751.9	29.66	753.4	64.8	18.2	76	W	.....	.....	6	.....	3	.....	.....	0.441	11.2	.....	
Sub-Series.																			
Upsala	29.56	750.9	29.65	753.1	59.4	15.2	100	WSW	2.2	1.0	.....	.....	10	.....	SW	0.48	12.26	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 38° 68′, E. 0° 60′	.....	.....	30.29	769.4	68.3	17.4	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.72	729.5	30.10	764.6	69.1	20.6	55	NNE	.....	.....	1	.....	10	.....	.....	0.516	13.1	Covered	The Observatory.
Zurich	28.514	724.1	30.12	765.0	62.4	16.9	81	SW	.....	.....	2	.....	9	.....	.....	0.239	6.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.7 mm.; Thermometer, −2.0 Cent.; Relative Humidity, +2 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	80.1	26.7	48	NE	22.4	10.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.06	763.4	81.5	27.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.3	91.9	33.3	61	W	.....	.....	2	.....	1s	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.90	759.4	29.96	761.0	59	15.0	91	NE	4	1.8	.....	.....	10n	.....	E	Inap.	Inap.	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	58	14.4	84	E	10	4.5	.....	.....	10n	.....	.....	.....	.....	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.49	749.0	29.67	753.6	68.9	20.5	89	W	.....	.....	2	.....	10s	.....	.....	0.172	4.35	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.78	756.4	29.94	760.5	55.3	12.9	90	E	.....	.....	6	.....	10ks	.....	.....	0	0	Gloomy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.86	758.2	29.87	758.7	60	10.0	96	E	5	2.2	.....	.....	10n	.....	SE	0.24	6.1	Light rain	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.90	759.4	55.0	12.8	88	E	8	3.6	.....	.....	10n	.....	.....	0.430	10.92	Raining	Prof. Harrison.
*Fort Garry, Manitoba	28.97	735.8	29.77	756.1	60	15.6	97	W	2	0.9	.....	5k	5n	W	W	0.456	11.43	Cloudy	James Stewart.
Granton, Ontario	.....	.....	.....	.....	67	19.4	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.87	758.7	29.99	761.7	56	13.3	92	SE	16	7.2	.....	.....	10n	.....	SE	Inap.	Inap.	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.80	756.9	68.3	20.2	84	W	.....	.....	3	0	0	.....	.....	0.07	1.8	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.41	747.0	29.73	755.1	67	19.4	93	W	2	0.9	.....	.....	10ks	.....	Calm	0.33	8.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.04	763.0	58.0	14.4	89	S	10	4.5	.....	7ks	0	S	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.50	749.3	29.70	754.4	64	17.8	95	Calm	0	0	.....	.....	10s	.....	.....	0.17	4.3	Hazy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.10	739.1	29.76	755.9	65	18.3	89	W	9	4.0	.....	2ck	0	W	.....	Inap.	Inap.	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.03	737.3	29.74	755.4	70.2	21.2	80	W	.....	.....	4	k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.82	757.4	66	18.9	95	W	8	3.6	.....	0	0	.....	.....	0.09	2.3	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.21	741.9	29.83	757.7	68	20.0	88	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.47	748.5	29.78	756.4	55	12.8	100	E	.....	.....	3	.....	10n	.....	E	1.42	36.1	Heavy rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.28	743.7	29.72	754.9	63	17.2	94	Calm	0	0	.....	0	Fog	.....	.....	0.85	21.6	Fair	W. H. McIntyre.
St. Andrews, N. B	29.73	755.1	29.78	756.4	54	12.2	92	E	.....	.....	3	.....	10n	.....	.....	0.40	10.2	Heavy rain	Dr. Gove.
St. John, N. B	29.67	753.6	29.84	757.9	54	12.2	87	E	14	6.3	.....	.....	10n	.....	.....	1.00	25.4	Heavy rain	G. Murdock, C. E.
*Saugeen, Ontario	29.13	739.9	29.82	757.4	64	17.8	82	W	12	5.4	.....	2cs	0	.....	.....	Inap.	Inap.	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	30.04	763.0	30.08	764.0	56	13.3	88	E	4	1.8	.....	8cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.43	747.5	29.79	756.7	67	19.4	77	N	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. John E. Oram.
Woodstock	29.87	758.7	29.91	759.7	57.0	13.9	97	E	8	3.6	.....	.....	10k	.....	.....	.....	.....	Raining	Prof. J. Montgomery.
Sub-Series.	28.76	730.5	29.77	756.1	67.8	19.9	81	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Johns, Newfoundland	29.94	760.5	30.19	766.8	50.0	10.0	79	NE	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.78	756.4	66	18.9	95	Calm	0	0	.....	.....	10s	.....	Calm	0.99	25.1	Cloudy	
Alpena, Michigan	29.20	741.7	29.82	757.4	63	17.2	83	NW	5	2.2	.....	0	0	.....	.....	0.60	15.2	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	41	5.0	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	28.83	732.3	29.92	760.0	74	23.3	90	SW	7	3.1	.....	.....	10s	.....	Calm	1.09	27.5	Cloudy	
Atlantic City, New Jersey	29.84	757.9	29.85	758.2	73	22.8	95	W	8	3.6	.....	2c	5ks	Calm	NW	0.65	16.5	Clearing	
Augusta, Georgia	29.81	757.2	30.00	762.0	79	26.1	87	SW	6	2.7	.....	.....	10s	.....	SW	0.10	2.5	Threatening	
Baltimore, Maryland	29.84	757.9	29.89	759.2	76	24.4	82	W	4	1.8	.....	Haze	2s	Calm	NW	1.54	39.1	Fair	
Barnegat, New Jersey	29.82	757.4	29.84	757.9	74	23.3	86	NW	10	4.5	.....	2k	8ks	Calm	NW	0.24	6.1	Cloudy	
Bismarck, Dakota	28.09	713.5	29.95	760.7	59	15.0	82	W	3	1.3	.....	2k	0	W	... .	0	0	Fair	
Boerne, Texas	28.56	725.4	29.82	757.4	74	23.3	72	S	8	3.6	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.13	689.1	30.09	764.3	61	16.1	45	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.61	752.1	29.76	755.9	61	16.1	94	NW	5	2.2	.....	2ck	5s	W	NW	0.23	5.8	Clearing	
Brackettville, Texas	28.84	732.5	29.83	757.7	77	25.0	46	E	8	3.6	.....	0	0	.....	.....	0.74	18.8	Clear	
Breckenridge, Minnesota	28.84	732.5	29.80	756.9	58	14.4	88	W	7	3.1	.....	0	Sm'e	.....	.....	0	0	Smoky	
Brownsville, Texas	29.80	756.9	29.85	758.2	85	29.4	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.11	739.4	29.77	756.1	71	21.7	75	SW	12	5.4	.....	0	Haze	.....	Calm	Inap	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	83	28.3	33	SW	.....	.....	1	5c	5s	E	SE	Inap.	Inap.	Cloudy	
Burlington, Vermont	29.46	748.0	29.72	754.9	66	18.9	79	S	9	4.0	.....	.....	10ks	.....	W	0.08	2.0	Cloudy	
Cairo, Illinois	29.65	753.1	30.02	762.5	76	24.4	64	N	3	1.3	.....	1c	0	W	.....	0	0	Clear	
Campo, California	27.28	692.9	29.85	758.2	55	12.8	81	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	81	27.2	83	SW	24	10.7	.....	10cs	0	SW	.....	0.02	0.5	Cloudy	
Cape Henry, Virginia	29.89	759.2	29.90	759.4	80	26.7	78	S	10	4.5	.....	.....	10s	.....	S	0.12	3.0	Cloudy	
Cape Lookout, N. Carolina	30.00	762.0	30.01	762.2	79	26.1	87	SW	28	12.5	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Cape May, New Jersey	29.85	758.2	29.88	758.9	73	22.8	90	W	9	4.0	.....	2cs	2ks	W	W	1.20	30.5	Fair	
Castroville, Texas	29.21	741.9	29.88	758.9	80	26.7	74	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.97	761.2	30.02	762.5	81	27.2	74	SW	4	1.8	.....	2c	0	W	.....	0.05	1.3	Fair	
Charlotte, North Carolina	29.12	739.6	29.89	759.2	75	23.9	95	S	4	1.8	.....	.....	10s	.....	S	0.82	20.8	Cloudy	
Chattanooga, Tennessee	29.18	741.1	29.94	760.5	76	24.4	91	Calm	0	0	.....	1cs	0	Calm	.....	0.26	6.6	Clear	
Cheyenne, Wyoming	24.16	613.6	30.10	764.5	50	10.0	86	W	4	1.8	.....	0	0	.....	.....	0.44	11.2	Clear	
Chicago, Illinois	29.23	742.4	29.89	759.2	65	18.3	73	W	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.32	744.7	29.94	760.5	74	23.3	63	NW	3	1.3	.....	0	0	.....	.....	0.21	5.3	Clear	
Cleveland, Ohio	29.17	740.9	29.86	758.4	71	21.7	75	SW	8	3.6	.....	5k	0	W	.....	0.82	20.8	Fair	
Coleman City, Texas	28.17	715.5	29.75	755.6	78	25.6	65	SW	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Columbus, Ohio	29.09	738.9	29.88	758.9	73	22.8	67	NW	5	2.2	.....	2ck	0	W	.....	0	0	Clear	
Concho, Texas	28.09	713.5	29.67	753.6	78	25.6	65	S	8	3.6	.....	5c	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.51	749.5	29.95	760.7	78	25.6	78	SE	2	0.9	.....	0	8ks	.....	Calm	0.66	16.8	Cloudy	
Davenport, Iowa	29.34	745.2	29.95	760.7	67	19.4	69	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.46	646.7	.....	.....	54	12.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.81	731.8	29.93	760.2	75	23.9	90	NE	2	0.9	.....	.....	8s	.....	SW	0	0	Cloudy	
Denison, Texas	29.17	740.9	29.92	760.0	77	25.0	86	Calm	0	0	.....	2k	5ks	W	W	0	0	Fair	
Denver, Colorado	24.89	632.2	30.11	764.8	56	13.3	81	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.09	738.9	29.94	760.5	66	18.9	64	Calm	0	0	.....	2k	0	NW	.....	0	0	Clear	
Detroit, Michigan	29.20	741.7	29.84	757.9	67	19.4	74	W	4	1.8	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Dodge City, Kansas	27.44	697.0	29.64	752.8	68	20.0	79	SE	16	7.2	.....	.....	10s	.....	SE	0.04	1.0	Cloudy	
Dubuque, Iowa	29.25	742.9	29.92	760.0	67	19.4	64	SW	1	0.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Duluth, Minnesota	29.12	739.6	29.76	755.9	64	17.8	78	W	12	5.4	.....	.....	10s	.....	Calm	0.48	12.2	Cloudy	
Eagle Pass, Texa	29.18	741.1	29.88	758.9	80	26.7	70	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.71	754.6	29.77	756.1	50	10.0	100	NE	30	13.4	.....	.....	10n;fg	.....	NE	0.94	23.9	Heavy rain	
Edinburg, Texas	.....	.....	.....	.....	83	28.3	79	S	.....	.....	.....	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.28	667.5	.....	.....	73	22.8	67	NW	2	0.9	.....	0	2s	.....	NW	0.04	1.0	Fair	
Erie, Pennsylvania	29.15	74..4	29.82	757.4	72	22.2	76	W	4	1.8	.....	0	0	.....	.....	0.09	2.3	Clear	
Escanaba, Michigan	29.19	741.4	29.81	757.2	66	18.9	69	W	5	2.2	.....	0	2s	.....	SW	0.44	11.2	Fair	
Florence, Arizona	28.37	720.6	29.97	761.2	87	30.6	55	S	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.90	708.6	.....	.....	55	12.8	93	N	1	0.4	.....	5cs	Sm'e	Calm	Calm	Inap.	Inap.	Fair	
Fort Davis, Texas	25.24	641.1	30.20	767.1	70	21.1	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.78	756.4	75	23.9	68	E	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	73	22.8	59	S	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.70	729.0	29.90	759.4	77	25.0	77	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.39	695.7	.....	.....	56	13.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.74	704.6	29.57	751.1	75	23.9	72	S	8	3.6	.....	5cs	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.83	757.7	73	22.8	81	NW	*	1.8	.....	5ck	5s	W	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.05	712.5	.....	.....	56	13.3	80	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Hazy	
Fort Verde, Arizona	.....	.....	.....	.....	75	23.9	65	W	.....	.....	1	8k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.76	755.9	77	25.0	69	S	10	4.5	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	81	27.2	78	SW	4	1.8	.....	8c	2ks	NE	SW	0	0	Cloudy	
Graham, Texas	28.90	734.0	29.90	759.4	77	25.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.24	742.7	29.85	758.2	71	21.7	75	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.04	737.6	29.93	760.2	73	22.8	85	E	8	3.6	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Indianapolis, Indiana	29.17	740.9	29.91	759.7	71	21.7	66	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.99	761.7	30.02	762.5	82	27.8	79	S	3	1.3	.....	1c	1ks	Calm	S	0	0	Clear	
Jacksboro, Texas	28.86	733.0	29.94	760.5	77	25.0	82	N	2	0.9	.....	0	8s	.....	SW	0	0	Fair	
Jacksonville, Florida	30.04	763.0	30.06	763.5	80	26.7	78	S	5	2.2	.....	2cs	0	Calm	.....	0.18	4.6	Clear	
Keokuk, Iowa	29.33	745.0	29.92	760.0	69	20.6	70	Calm	0	0	.....	9cs	0	W	.....	0	0	Cloudy	
Key West, Florida	29.98	761.5	30.01	762.2	85	29.4	72	E	6	2.7	.....	5k	0	E	.....	0.01	0.3	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.91	759.7	79	26.1	82	SW	23	10.3	.....	10cs	0	SW	.....	Inap.	Inap.	Cloudy	
Knoxville, Tennessee	28.98	736.1	29.94	760.5	75.5	24.2	91	W	2	0.9	.....	2k	8ks	SW	W	1.16	29.5	Cloudy	
La Crosse, Wisconsin	29.15	740.4	29.86	758.4	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	71	21.7	95	N	1	0.4	.....	0	8n	.....	Calm	0.06	1.5	Light rain	
Laredo, Texas	29.54	750.3	29.86	758.4	85	29.4	54	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.16	740.7	29.97	761.2	68	20.0	79	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.67	753.6	30.02	762.5	75	23.9	81	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.48	748.8	29.81	757.2	58.6	14.7	91	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.41	747.0	29.94	760.5	75	23.9	60	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.34	745.2	29.87	758.7	79	26.1	78	SW	3	1.3	.....	10ck	0	W	.....	0.11	2.8	Cloudy	
Madison, Wisconsin	28.91	734.5	29.85	758.2	66	18.9	79	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.08	738.6	29.75	755.6	65	18.3	73	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.36	720.3	30.03	762.7	79	26.1	70	SE	6	2.7	.....	Haze	0	SE	.....	Inap.	Inap.	Hazy	
Memphis, Tennessee	29.67	753.8	30.00	762.0	76	24.4	82	N	6	2.7	.....	5cs;k	0	sw;NW	.....	0.01	0.3	Fair	
Milwaukee, Wisconsin	29.16	740.7	29 86	758.4	64	17.8	78	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.96	761.0	30.00	762.0	77	25.0	91	NW	4	1.8	.....	.....	10s	.....	NW	0.46	12.4	Threatening	
Montgomery, Alabama	29.76	755.9	29.99	761.7	76	24.4	97	SW	4	1.8	.....	.....	10n	.....	SW	0.56	14.2	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.94	735.1	29.88	758.9	73	22.8	85	Calm	0	0	.....	8k	0	SW	.....	1.89	48.0	Cloudy	
Mt. Washington, N. H.	28.66	601.0	30.02	762.5	50	10.0	100	NW	33	14.8	.....	.....	Fog	.....	NW	1.33	33.8	Foggy	
Nashville, Tennessee	29.46	748.3	29.97	761.2	78	25.6	69	W	1	0.4	.....	5cs	0	SW	.....	0.47	11.9	Fair.....	
New Haven, Connecticut	29.67	753.6	29.78	756.4	70	21.1	90	Calm	0	0	.....	2c	5s	Calm	Calm	1.10	27.9	Fair	
New London, Connecticut	29.72	754.9	29.76	755.9	70	21.1	87	NW	6	2.7	.....	7ck	0	SW	.....	0.57	14.5	Fair	
New Orleans, Louisiana	29.95	760.7	30.01	762.0	82	27.8	79	W	4	1.8	.....	0	10s	.....	W	0.08	2.0	Cloudy.....	
Newport, Rhode Island	29.71	754.6	29.76	755.9	68	20.0	84	NW	8	3.6	.....	5ck	2s	SW	Calm	0.56	14.2	Clearing.....	
New York, New York	29.67	753.6	29.83	757.7	71	21.7	85	W	5	2.2	.....	1c	5ks	Calm	W	0.61	15.5	Fair	
Norfolk, Virginia	29.87	758.7	29.92	760.0	80	26.7	82	SW	16	7.2	.....	.....	10s	.....	SW	0.06	1.5	Cloudy.....	
North Platte, Nebraska	27.16	689.8	29.66	753.4	62	16.7	94	S	8	3.6	.....	.....	10s	.....	S	0.13	3.3	Cloudy	
Olympia, Washington Ter.	29.91	759.7	29.95	760.7	55.0	12.8	93	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska	28.85	732.8	29.91	759.7	67	19.4	79	W	3	1.3	.....	2c	0	W	.....	0	0	Clear.....	
Oswego, New York	29.46	748.3	29.76	755.9	71	21.7	90	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Pembina, Dakota	28.92	734.6	29.72	754.9	56	13.3	100	W	3	1.3	.....	.....	10s	.....	Calm	0.02	0.5	Clear.....	
Philadelphia, Pa	29.80	756.9	29.86	758.2	74	23.3	81	NW	10	4.5	.....	1c	Haze	W	Calm	0.18	4.6	Cloudy	
Phœnix, Arizona	28.63	727.2	30.31	769.9	85	29.4	57	E	1	0.4	.....	0	2s	.....	Calm	0.61	20.6	Clear	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	33	0.6	70	W	21	9.4	.....	2ck	2ks	SW	SW	0	0	Fair.....	
Pilot Point, Texas	29.09	738.9	29.88	758.9	86	30.0	75	SE	7	3.1	.....	5k	5s	S	SE	0.30	7.6	Fair	
Ploche, Nevada	.....	.....	.....	.....	65	18.3	35	NW	5	2.2	.....	0	0	.....	.....	0	0	Cloudy.....	
Pittsburg, Pennsylvania	29.10	739.1	29.87	758.7	70	21.1	90	NW	2	0.9	.....	8k	0	W	.....	0	0	Clear	
Port Huron, Michigan	29.19	741.4	29.82	757.4	66	18.9	74	W	6	2.7	.....	0	0	.....	.....	0.88	22.4	Fair.....	
Portland, Maine	29.65	753.1	29.69	754.1	59	15.0	88	N	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Clear	
Portland, Oregon	29.89	759.2	29.96	761.0	62.0	16.7	83	Calm	0	0	.....	0	0	.....	.....	2.01	51.1	Cloudy.....	
Prescott, Arizona	24.76	628.9	30.12	765.0	71	21.7	58	SW	.....	.....	1	5ck	0	SW	.....	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.08	762.7	81	27.2	78	E	8	3.6	.....	0	0	.....	.....	0	0	Fair.....	
Red Bluff, California	29.38	746.2	29.72	754.9	76	24.4	45	NW	6	2.7	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Rio Grande City, Texas	29.76	755.9	29.97	761.2	80	26.7	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.18	741.1	29.76	755.9	78	22.8	76	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon	29.37	746.0	29.92	760.0	62	16.7	83	N	1	0.4	.....	0	Haze	.....	Calm	0.10	2.5	Clear.....	
Sacramento, California	29.65	753.1	29.73	755.1	60	15.6	82	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.43	747.5	29.99	761.7	70	21.1	66	NW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy.....	
St. Marks, Florida	30.02	762.5	30.04	763.0	80	26.7	87	SW	4	1.8	.....	2k;cs	0	SW	.....	0.15	3.8	Fair.....	
St. Paul, Minnesota	29.02	737.1	29.82	757.4	61	16.1	83	SW	10	4.5	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	67	19.4	33	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.32	744.7	29.87	758.7	80	26.7	78	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
San Diego, California	29.77	756.1	29.84	757.9	64	17.8	89	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.23	742.4	29.87	758.7	70	21.1	75	W	11	4.9	.....	0	0	.....	.....	0.16	4.1	Clear	
Sandy Hook, New Jersey	29.79	756.7	29.82	757.4	75	23.9	77	SW	13	5.8	.....	5c	0	W	.....	0.16	4.1	Fair	
San Francisco, California	29.72	754.9	29.79	756.7	57	13.9	94	W	4	1.8	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	60	15.6	71	Calm	0	0	.....	8ck	0	SW	.....	0.47	11.9	Fair	
Savannah, Georgia	29.97	761.2	30.06	763.5	84	28.9	71	SW	5	2.2	.....	2c	0	Calm	.....	0.19	4.8	Fair.....	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	77	25.0	91	S	2	0.9	.....	0	8ks	.....	W	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.01	762.2	30.04	763.0	81	27.2	91	SW	18	8.0	.....	5cs	5ks	N	SW	0.18	4.6	Cloudy	
Socorro, New Mexico	25.46	646.7	29.52	749.8	68	20.0	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Ill	29.36	745.5	30.01	762.2	65	18.3	68	W	2	0.9	.....	5ck; cs	0	W; NW	.....	0	0	Fair.....	
Springfield, Massachusetts	29.65	753.1	29.77	756.1	68	20.0	79	N	2	0.9	.....	0	0	.....	.....	1.57	39.9	Clear.....	
Stockton, Texas	26.91	683.5	29.91	759.7	76	24.4	2	SE	12	5.4	.....	5c	0	E	.....	0	0	Fair.....	
Thatcher's Island, Mass	29.73	755.1	29.79	756.7	55	12.8	93	NW	8	3.6	.....	0	5s	.....	W	0.68	17.3	Fair.....	
Toledo, Ohio	29.20	741.7	29.85	758.2	72	22.2	67	W	6	2.7	.....	0	0	.....	.....	0.09	2.3	Clear.....	
Tucson, Arizona	27.45	697.2	30.00	762.0	84	28.9	53	S	2	0.9	.....	2ck	8s	Calm	Calm	0.02	0.5	Cloudy	
Umatilla, Oregon	29.54	750.3	30.01	762.2	69.0	20.6	75	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.05	737.9	29.83	757.7	80	26.7	70	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.76	755.9	30.00	762.0	79	26.1	87	Calm	0	0	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Virginia City, Montana	24.36	618.7	29.84	757.9	53	11.7	36	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.36	745.7	29.72	754.9	65	18.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.78	756.4	29.89	759.2	75	23.9	81	W	3	1.3	.....	0	1s	.....	W	2.07	52.6	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	82	27.8	52	SE	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.93	760.2	30.00	762.0	78	25.6	91	SW	3	1.3	.....	10cs	0	Calm	.....	0.73	18.5	Cloudy	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	57	13.9	30	E	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.71	754.6	29.74	755.4	68	20.0	100	NW	26	11.6	.....	.....	10s	.....	NW	0.60	15.2	Cloudy	
Yankton, Dakota	28.72	729.5	29.96	761.0	64	17.8	78	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.62	752.3	29.77	756.1	87	30.6	65	SE	9	4.0	.....	5cs	0	Calm	.....	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.94	760.5	29.99	761.7	82	27.8	78	Calm	0	0	.....	8c	0	SW	.....	0	0	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.15	638.8	.....	.....	68.0	20.0	80	Calm	.....	.....	0	0cs;k	3ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I	29.84	757.9	29.92	760.0	85	29.4	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	760.5	29.94	760.5	83	28.3	79	E	.....	.....	1	3c	4k	E	.....	0.060	1.52	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,[illegible] (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡	.....	.....	81	27.2	96	SW	3	1.3	.....	.....	10	.....	SW	0.48	12.2	.....	.....	Raining	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.89‡	759.2‡	.....	.....	79	26.1	91	ENE	.....	.....	2	.....	3k;ck	.....	NE	0.19	4.8	.....	.....	Fair	
Adams. Mare I'd , Navy Yard, Cal.	29.81‡	757.2‡	.....	.....	60	15.6	94	SSW	.....	....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Alliance, Copenhagen, Denmark...	29.82‡	757.4‡	.....	.....	65	18.3	68	WNW	.....	.....	4–5	.....	7	.....	WNW	.....	.....	.....	.....	Squally.....	
Ashuelot, Yokohama, Japan	29.91‡	759.7‡	.....	.....	80	26.7	91	ENE	.....	.....	3	.....	2	.....	WNW	.....	.....	Smooth	.....	Fair.....	
Colorado, New York, N. Y.....	29.81‡	757.2‡	.....	.....	72	22.2	86	NW	4	1.8	.....	.....	8	.....	WNW	1.00	25.4	.....	.....	Misty.....	
Constellation, Off Isles of Shoals, N. H.	29.72‡	754.9‡	.....	.....	58	14.4	94	W	.....	.....	2	.....	8	.....	W	Heavy	Heavy	.....	.....	Drizzling.....	
Constitution, Navy Yard, Brooklyn, N.Y.	29.78‡	756.4‡	.....	.....	69	20.6	95	WNW	.....	.....	2	.....	3	.....	WNW	.....	.....	.....	.....	Clear.....	
Enterprise, Cronstadt, Russia.....	29.42‡	747.2‡	.....	.....	66	18.9	79	NE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Essex, Buenos Ayres, Argentine Rep., S. A	29.83‡	757.7‡	.....	.....	52	11.1	100	SSE	.....	.....	5	.....	10	.....	SE	.....	.....	Smooth	.....	Cloudy	
Franklin. Norfolk, Va.	29.90‡	759.4‡	.....	.....	80	26.7	78	SW	16	7.2	.....	.....	10	.....	SW	0.04	1.0	.....	.....	Cloudy.....	
Hartford S. 29° 52′, W. 44° 54′.....	30.03‡	762.7‡	.....	.....	71	21.7	90	NNW	.....	.....	3	.....	5	.....	NNW	0	0	Mod'ate	N	Fair.....	
Independence, Mare I'd. Navy Yard, Cal.	29.89‡	759.2‡	.....	.....	62	16.7	83	SW	7	3.1	.....	.....	5?	.....	SW	.....	.....	.....	.....	Cloudy?.....	
Kearsarge, Placentia, New Foundland.	30.24‡ ?	768.1‡ ?	.....	.....	53	11.7	73	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Hazy.....	
Michigan, Chicago, Ill.....	29.85‡	758.2‡	.....	.....	61	16.1	??	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Monocacy. Shanghai, China.....	29.72‡	754.9‡	.....	.....	83	28.3	87	SSE	.....	.....	2	.....	10	.....	SSE	.....	.....	.....	.....	Cloudy.....	
Monongahela, Yokohama, Japan.....	29.91‡	759.7‡	.....	.....	81	27.2	100	NE	.....	.....	3–4	.....	kn	.....	.....	Light	Light	.....	.....	D. clouds....	
New Hampshire. Port Royal, S. C.....	30.00‡	762.0‡	.....	.....	79	26.1	82	WSW	17	7.6	.....	.....	2	.....	WSW	0.40	10.2	.....	.....	Fair.....	
Onward, Callao, Peru.....†.	29.95‡	760.7‡	.....	.....	62	16.7	83	Var.	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Cloudy.....	
Palos, Shanghai, China.....	29.74‡	755.4‡	.....	.....	82	27.8	83	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	76	24.4	91	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	29.90‡	759.4‡	.....	.....	62	16.7	83	S	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Portsmouth. Boston, Mass.....	29.78‡	756.4‡	.....	.....	60	15.6	94	NW	.....	.....	3	.....	5	.....	Calm	.....	.....	.....	.....	Fair	
Powhatan, Chester, Penn	29.92‡	760.0‡	.....	.....	75	23.9	81	WNW	.....	.....	2	.....	2	.....	Calm	0.9	23.	.....	.....	Fair	
Quinnebaug, Constantinople, Turkey	29.93‡	760.2‡	.....	.....	77	25.0	57	NE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Foochow, China.....	29.78‡	756.4‡	.....	.....	85	29.4	83	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds.....	
Richmond, Yokohama, Japan.....	29.91‡	759.7‡	.....	.....	81	27.2	91	ENE	.....	.....	2	.....	2	.....	.....	0.13	3.3	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas.....	29.95‡	760.7‡	.....	.....	80	26.7	100	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.....	29.88‡	758.9‡	.....	.....	74	23.3	86	WNW	.....	.....	2	.....	5	.....	WNW	0.10	2.5	.....	.....	Clearing.....	
Saratoga, Gardner'sBay, LongI'd., N.Y	29.78‡	756.4‡	.....	.....	66	18.9	94	SW	.....	.....	4	.....	8	.....	SW	Heavy	Heavy	.....	.....	D. clouds....	
St. Louis, League Island, Pa	29.85‡	758.2‡	.....	.....	75	23.9	81	NW	8	3.6	.....	.....	2	.....	SW	0.85	21.6	.....	.....	Fair	
Trenton, Copenhagen, Denmark...	29.80‡	756.9‡	.....	.....	70	21.1	52	W	.....	.....	3	.....	5	.....	WNW	0	0	Smooth	.....	Fair.....	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.91‡	759.7‡	.....	.....	60	15.6	94	SSW	.....	.....	1–2	.....	10	.....	Calm	0	0	Smooth	.....	Overcast.....	
Vandalia, Chester, Penn.....	29.87‡	758.7‡	.....	.....	73	22.8	85	NNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.....	29.69‡	754.1‡	.....	.....	59	15.0	64	NW	5	2.2	.....	.....	8	.....	.....	0.78	19.8	.....	.....	Cloudy.....	
Wyoming. Phalerum Bay, Greece.	29.88‡	758.9‡	.....	.....	87	30.6	34	WNW	.....	.....	2–3	.....	0	.....	.....	.....	.....	Smooth	NW	Clear	
Wachusett, New Orleans, La	30.02‡	762.5‡	.....	.....	80	26.7	91	WSW	.....	.....	2	.....	8	.....	W	.....	.....	.....	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 36° 18′, W 122° 13′...†		29.84‡	757.9‡	56	13.3	??	WNW			3		10		NW	0	Short Heavy	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 31° 34′, W. 177° 33′		30.05‡	763.3‡				NNW			4		10		W		Mod'ate	NW	Dull	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 42° 01′, E. 176° 31′...†		30.06‡	763.5‡	67	19.4	95	SSW			4		Fog			0	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 46° 04′, W. 151° 54′...†		30.27‡	768.8‡	52	11.1	??	N			4		ks		NE	0	Smooth	NNE	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 38° 41′, W. 65° 10′		30.10‡	764.5‡	79.0	26.1	86	SW			6		8		SW	3 hr's	Mod'ate	SW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohlo, N. 42° 30′, W. 49° 16′		30.22‡	767.6‡				N			1		5		W		3	W	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana																			Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Off Block Island, Rhode I'd.		29.71‡	754.6‡	72	22.2	100	WSW	18	8.0			Fog.			0.04 in. or 1.0 mm	Heavy	SW	Fog & mist.	Capt. James Jorgensen.
Schooner Charley Buck.																			W. H. Champlin.
Brigantine "George of Halifax", N. 41° 04', W. 71° 51'.....†		29.77‡	756.1‡				W			1		8		W	Heavy	Smooth	SW	Clearing,.....	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden.																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.05	763.3	69.6	20.9	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.10	764.4	78.1	25.6	74	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.07	763.7	79.5	26.4	78	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilière.
La Calle	.....	.....	30.12	765.1	82.6	28.1	84	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.16	766.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.06	763.4	95.0	35.0	15	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.10	764.6	89.2	31.8	26	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	85.8	29.9	21	WSW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.02	762.4	95.4	35.2	36	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertraud.
Biskra	.....	.....	30.05	763.3	101.3	38.5	23	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.61	752.2	30.15	765.7	73.4	23.0	84	NE	.....	.....	3	.....	6	.....	.....	0	0	.....	Prof. Ivan Stoxir.
Cracow, I. R. Observatory	29.30	741.2	30.07	763.6	68.6	14.8	78	NW	9.4	4.2	.....	.....	10	.....	.....	1.287	32.7	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.04	737.5	29.91	759.6	56.5	13.6	73	NW	.....	.....	5	.....	10ns	.....	SE	1.791	45.50	.....	Julius Mikolik.
Gratz	28.94	735.0	30.16	766.0	68.5	20.3	53	NW	.....	.....	5	.....	0	.....	.....	0.551	14.0	.....	Andreas Rospini.
Hermannstadt	28.53	724.7	29.93	760.2	63.0	17.2	75	W	.....	.....	4	.....	10	.....	.....	0.073	1.85	.....	Prof. A. Gottschling.
Kremsmünster	28.88	733.5	30.19	766.9	65.7	18.7	70	WNW	.....	.....	3	.....	5	.....	.....	0.244	6.2	.....	Prof. C. Wagner.
Lemberg	28.79	731.3	29.74	755.5	65.5	18.6	80	SE	.....	.....	1	.....	10	.....	.....	0.677	17.2	.....	Dr. T Stanecki.
Pola	30.02	762.5	30.18	765.3	80.8	27.1	42	W	.....	.....	2	.....	2	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.46	748.3	29.92	760.0	59.0	15.0	93	SW	.....	.....	6	.....	10	.....	.....	0.516	13.1	Rainy	Julius Csics, S. J.
Szegedin	29.74	755.3	30.01	762.2	70.5	21.4	59	W	.....	.....	3	.....	4	.....	.....	0.043	1.10	.....	Karl Stancel.
Trieste	30.06	763.4	30.16	766.0	76.0	24.8	45	NW	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.46	748.3	30.21	767.3	65.5	18.6	54	NW	.....	.....	3	.....	6	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.87	758.7	60.0	15.6	.....	S	10	4.5	.....	.....	6	.....	.....	0.010	0.25	D. clouds	W. Boswell.
Ardrossan	29.89	759.2	29.90	759.4	58	14.4	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Wm McNeil &G.Carrick
Armagh, Observatory	29.73	755.1	29.95	760.7	62.6	17.0	.....	SW	14	6.3	.....	.....	10	.....	.....	.....	.....	Drizzling	S. Call.
Bidston (Liverpool Obs)	....	.....	30.05	763.3	70.8	21.6	.....	WSW	25	11.2	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	30.04	763.0	68.9	20.6	.....	SW	30	13.4	.....	.....	7	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.67	753.6	30.06	763.5	70.0	21.1	.....	W	.....	.....	1	.....	4	.....	.....	0.02	0.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.86	758.4	29.89	759.2	82	27.8	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	30.05	763.3	30.15	765.8	73.9	23.3	.....	SW	.....	.....	2	.....	7	.....	.....	0	0	D. clouds	H. Todd.
Cardington	.....	.....	30.13	765.3	73.0	22.8	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.04	763.0	30.17	766.3	72.2	22.3	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper R. E.
Donaghadee	29.92	760.0	29.96	761.0	63	17.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.19	766.8	30.22	767.6	62	16.7	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth, Observatory	29.99	761.7	30.21	767.3	67.7	19.8	.....	.....	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.96	710.2	30.24	768.1	66.7	19.3	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	81	27.2	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.92	760.0	59	15.0	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.02	762.5	30.06	764.0	77.5	25.3	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.68	753.9	29.89	759.2	62.9	17.2	.....	SSW	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.12	765.0	30.12	765.0	71	21.7	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	30.00	762.0	30.17	766.3	71.1	21.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.02	762.5	30.23	767.8	68	20.0	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.16	766.1	30.28	769.1	63	17.2	.....	S	.....	.....	1	.....	8k	.....	.....	0.05	1.3	Fair	M. P. Moyle.
Holyhead	30.05	763.3	30.05	763.3	63	17.2	.....	SSW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	30.01	762.2	30.30	769.6	64.5	18.1	.....	WSW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	30.11	764.8	30.15	765.8	67.0	19.4	.....	SW	12	5.4	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.85	758.2	30.10	764.5	70.0	21.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	81.6	27.6	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.73	755.1	29.82	757.4	66	18.9	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.04	763.0	85.0	29.4	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.90	759.4	30.08	764.0	77.2	25.1	.....	SSW	.....	.....	4	.....	5k	.....	SW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.59	751.6	30.09	764.3	71.8	22.1	.....	SSW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.09	764.3	71	21.7	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.13	765.3	30.21	767.3	63.2	17.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.02	762.5	30.14	765.5	63	17.2	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.98	761.5	30.15	765.8	59	15.0	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.81	757.2	59.4	15.2	.....	W	14	6.3	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	67.2	30.7	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H.Lyne.
Sheffield	29.80	756.9	30.07	763.8	75.8	24.3	.....	SW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	59.4	15.2	92	W	.....	.....	5	.....	10	.....	.....	0.105	2.67	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.05	763.3	69.6	20.9	.....	SW	18	8.0	.....	.....	10	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.97	761.2	30.18	766.6	70.5	21.4	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	W.Newcombe.
Valencia, Observatory	29.99	761.7	30.02	762.5	60.0	15.6	.....	SSW	40	17.9	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.21	767.3	30.25	768.3	77.2	25.1	54	S	8.5	3.8	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	30.12	765.0	41	5.0	86	NW	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.90	759.4	68.0	20.0	.....	W	.....	.....	4	.....	9k	.....	.....	.....	.....	Showery	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	71.4	21.9	62	ESE	18.0	8.0	.....	0	4	.....	ESE	0.04	1.0	Squally	C. Meldrum.
Melbourne, Observatory	30.18	766.6	30.27	768.8	45.0	7.2	90	ENE	4	1.8	.....	.....	3	.....	.....	0	0	Foggy	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10'. E. 29° 05'	.....	.....	29.82‡	757.4‡	77.8	25.4	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. J. L. Wharton.
Algeria, N. 51° 15', W. 14° 40'	.....	.....	29.92	760.0	59	15.0	.....	SSW	.....	.....	2	.....	10	.....	.....	4	WSW	Overcast	Capt. Wm. Watson.
Agnes Wilson, N. 49° 10', W. 8° 45'	.....	.....	30.17	766.3	62	16.7	.....	SSW	.....	.....	2	.....	1	.....	.....	3	WNW	Blue sky	Capt. H. W. Dyke.
Atmosphere, N. 43° 50' W. 55° 10'	.....	.....	29.80	756.9	63	17.2	.....	WSW	.....	.....	8	.....	10	.....	.....	7	SW	Squally	.....
Astarte, N. 59° 35', W. 2° 05'	.....	.....	29.85‡	758.2‡	53.4	11.9	.....	SSE	.....	.....	3	.....	9	.....	.....	.....	.....	Misty	Capt. Parson.
Barque Commewyne, N. 36° 35', W. 53° 20'	.....	.....	30.25	768.3	77.2	25.1	.....	SW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Capt. A. Buchan.
Garden Castle, N. 36° 50', W. 10° 15'	.....	.....	30.08	764.0	73	22.8	.....	NNW	.....	.....	3	.....	6	ESE	.....	3	NNW	D. clouds	.....
Theophane, N. 3° 40', W. 21° 40'	.....	.....	29.99‡	761.7‡	84.5	29.2	.....	SSE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected, but apparently not reduced to sea-level. ‡Correction for temperature and elevation applied at this office. §The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	68.0	20.0	93	NE	.....	.....	1	.....	8ks	.....	.....	0.4	10.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Copenhagen	29.95	760.8	30.00	762.0	64.0	17.8	60	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Fanöe	30.05	763.3	30.07	763.8	59.9	15.5	87	W	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.84	758.0	29.89	759.1	48.5	6.4	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.61	752.2	29.66	753.3	52.3	11.3	77	SE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.58	751.2	29.61	752.1	54.9	12.7	89	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.89	759.1	30.00	761.9	58.6	14.8	84	WSW	.....	.....	6	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Alençon, Normal School	29.76	755.8	30.31	769.8	74.5	23.6	65	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.15	765.8	30.26	768.6	75.6	24.2	59	WSW	.....	.....	1	.....	5	.....	E	0	0	Cloudy	Bouvallet, Director.
Arras, Engin'r School	30.00	762.0	30.25	768.4	65.5	18.6	74	W	.....	.....	1	.....	10	.....	NW	0	0	Covered	Klein, Commandant.
Avignon, Normal School	30.04	763.0	30.12	765.0	86.0	30	36	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.72	754.8	30.26	768.5	74.3	23.5	39	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	30.01	762.2	30.26	768.7	72.5	22.5	75	NW	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.39	746.6	30.26	768.7	73.2	22.9	53	NNE	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.41	746.9	30.34	770.7	75.2	24	53	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.66	753.4	30.21	767.2	70.7	21.5	55	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	M. Gence, Director.
Brest, Naval Observatory	29.96	761.0	30.21	767.2	72.7	22.6	69	SW	.....	.....	1	.....	0	.....	.....	0.016	0.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.73	755.2	30.13	765.2	84.9	29.4	27	W	.....	.....	2	.....	1	.....	E	0	0	Clear	September, Dir.
Caen, Normal School	30.21	767.3	30.24	768.2	73.4	23	55	SW	.....	.....	1	.....	.....	.....	SW	0	0	.....	Lair, Director.
Chartres, Normal School	29.68	753.9	30.23	767.9	72.5	22.5	70	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.96	760.9	30.26	768.7	74.3	23.5	66	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.87	733.3	30.18	766.5	74.5	23.6	46	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.43	747.5	30.26	768.5	73.6	24.1	45	W	.....	.....	1	.....	2ck	W	W	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.05	737.8	30.19	766.8	86.2	30.1	30	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.44	747.8	30.19	766.8	74.5	23.6	53	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	30.03	762.8	30.24	768.0	74.5	23.6	58	NE	.....	.....	1	.....	2	.....	ENE	0.008	0.2	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.97	761.2	30.27	768.9	70.2	21.2	62	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director
Lons-Le-Saulnier, N.School	29.35	745.4	30.24	768.0	73.4	23	44	NNE	.....	.....	5	.....	0	.....	.....	0	0	Very clear	A. Baudry, Director.
Lorient, Naval Observatory	30.18	766.6	30.29	769.2	76.6	19.8	65	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.85	758.1	30.11	764.7	82.9	28.3	36	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	29.22	742.3	30.24	768.2	70.7	21.5	57	N	.....	.....	1	.....	1	.....	N	0	0	Clear	Barbier, Director.
Mont-Louis	25.12	638.1	30.44	773.1	70.7	21.5	45	E	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nismes, Normal School	29.93	760.1	30.12	765.1	86.4	30.2	28	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	30.00	761.9	71.4	21.9	48	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.82	579.6	.....	.....	66.6	19.2	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gen'l de Nansouty.
Perpignan	30.05	763.2	30.15	765.8	79.7	26.5	35	SE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.45	646.4	.....	.....	52.2	11.2	82	E	.....	.....	2	.....	5	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	30.19	766.7	30.22	767.5	76.6	24.8	49	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	30.19	766.5	30.26	768.6	71.6	22.0	60	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.17	766.4	30.21	767.2	71.4	21.9	58	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.11	764.7	30.27	768.9	71.8	22.1	62	NNE	.....	.....	1	c	.....	.....	.....	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	29.08	738.6	30.14	765.5	68.7	20.4	78	NW	.....	.....	1	.....	5	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.49	749.1	30.22	767.6	75.0	24.2	54	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	30.04	763.0	30.24	768.0	75.4	24.1	47	ESE	.....	.....	1	.....	5	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.79	756.6	30.28	769.1	72.0	22.2	48	NW	.....	.....	2	.....	5	.....	.....	0	0	Clear	Dr. A. Bergny, Director
Villefranche-sur-Saone, N.S.	29.50	749.3	30.18	766.6	78.8	26	60	N	.....	.....	2	.....	5	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.74	755.4	29.77	756.1	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.55	14.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.61	752.2	30.21	767.3	75 9	24.4	45	N	.....	.....	1	.....	5	.....	.....	0	0	Clear	Ch. André, Director.
Nice	.....	.....	30.14	765.2	80.6	27.0	67	SW	.....	.....	1	.....	5	.....	.....	0	0	Misty	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.72	754.8	29.74	755.4	78.1	25.6	92	ESE	7.8	3 5	.....	2ck	.....	N	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4. Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,812 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 6.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.33	745.0	30.18	766.6	68.7	20.4	49	NW	.....	.....	2	.....	2	NW	....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.99	761.8	30.16	766.0	70.3	21.3	51	NW	.....	.....	4	.....	3	.....	.....	0.043	1.1	.....	Prof. Dr. Arndt.
Breslau	29.63	752.5	30.16	766.0	65.5	18.6	55	NW	.....	.....	4	.....	6	.....	.....	0.210	5.35	.....	Royal University Ob'sy.
Carlsruhe	29.81	757.1	30.23	767.7	72.7	22.6	57	SW	.....	.....	1	.....	5	NW	.....	0	0	.....	Albert Sens.
Cassel	29.62	752.3	30.23	767.8	70.3	21.3	59	S	.....	.....	2	.....	7	W	....	0	0	.....	Dr. H. Möhl.
Crefeld	30.04	762.9	30.20	767.0	71.6	22.0	52	W	.....	.....	3	.....	4k	.....	.....	0	0	....	Director Lose.
Emden	.....	.....	30.11	764.7	68.4	20.2	63	W	.....	.....	4	.....	9	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.85	758.3	30.22	767.6	73.9	23.3	.....	WSW	.....	.....	2	.....	4	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	30.11	764.7	30.15	765.7	66.7	19.3	64	NW	.....	.....	3	.....	4cs	NW	.....	0.012	0.3	.....	Dr. Assmann.
Friedrichshafen	28.84	732.4	30.25	768.3	65.5	18.6	68	SW	.....	.....	4	.....	0	.....	.....	0	0	....	M. Wilhelm.
Hamburg	30.08	763.9	30.15	765.7	62.1	16.7	91	W	.....	.....	3	.....	10n	....	.....	0.047	1.2	Showery.....	Captain F. Hegemann
Kiel	30.08	764.0	30.10	764.5	64.9	18.3	71	W	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.0	62.8	17.1	68	W	.....	.....	5	.....	2	.....	.....	0	0	....	Prof. E. Luther.
Köslin	.....	.....	30.06	763.4	63.3	17.4	.....	NW	.....	.....	4	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.79	756.7	30.21	767.2	68.0	20.0	47	W	.....	.....	2	.....	6	.....	.....	0.071	1.8	.....	Prof. Bruhns, Privy Counselor.
Memel	29.91	759.8	29.96	761.0	63.3	17.4	71	WNW	.....	.....	5	.....	7ks	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.45	722.5	30.33	770.3	68.2	20.1	43	W	.....	.....	1	.....	8	SW	.....	0.059	1.5	Thunder-storm..	Dr. C. Lang.
Neufahrwasser	30.03	762.8	30.05	763.2	68.0	20.0	44	NW	.....	.....	4	.....	6	.....	.....	0	0	... .	A. Lothes.
Posen	29.85	758.2	30.13	765.4	65.5	18.6	53	WNW	.....	.....	5	.....	3	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.74	755.3	30.27	768.9	72.7	22.6	53	S	.....	.....	2	.....	3	NW	.....	0	0	....	Imp. University Observatory.
Stuttgart	29.28	743.7	30.20	767.0	70.3	21.3	51	NW	.....	.....	1	.....	8	N	.....	.....	.....	.....	Prof. Dr. Schoder.
Treves (Trier)	... ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.75	730.3	30.24	768.0	65.1	18.4	64	Calm	0	0	.....	.....	5ck	.....	NW	0.157	4.0	Hazy...	T. Hopfner.
Wustrow	30.08	764.1	30.11	764.7	64.0	17.8	69	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.1	29.82	757.5	91.0	32.8	.....	SW	.....	.....	2.5	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.4	29.59	751.6	83.1	28.4	70	WSW	24.0	10.7	.....	.....	5	WSW	.....	0	0	D. clouds....	
Deesa	29.14	740.2	29.61	752.0	80.3	31.8	56	SW	8.0	3.6	.....	.....	8	E	.....	0.07	1.8	D. clouds....	
Bombay	29.62	752.3	29.65	753.2	84.7	29.3	79	W	12.0	5.4	.....	.....	4	SSW	WSW	0.02	0.5	D. clouds....	
Poona	27.80	706.0	29.64	752.9	77.0	25.0	80	WSW	.....	.....	.....	.....	8	E	W	1.17	29.7	D. clouds....	
Lahore	28 81	731 8	29.52	749.8	101.2	38.4	34	NW	3.9	1.7	.....	.....	2	.....	.....	0	0	Blue sky.....	
Belgaum	27.17	690.2	29.72	755.0	70.9	21.6	88	SW	2.0	0.9	.....	.....	10	SW	SW	0.09	2.3	Showery.....	
Roorkee	28.66	728.0	29.53	750.2	90.6	32.6	68	Calm	0.8	0.4	.....	.....	3	.....	.....	0	0	....	
Agra	29.00	736.5	29.55	750.6	87.7	30.9	46	E	.....	.....	.....	.....	9	.....	E	0	0	.....	
Nagpur	28.54	724.9	29.56	750.8	87.7	30.9	68	Calm	1.5	0.7	.....	.....	6	.....	E	0	0	D. clouds....	
Lucknow	29.20	741.7	29.57	751.1	85.2	29.6	79	Calm	1.0	0.4	.....	.....	2	SSE	.....	0.45	11.4	D. clouds....	
Allahabad	29.24	742.8	29.55	750.5	90.2	32.3	73	Calm	1.2	0.5	.....	.....	3	.....	W	0	0	D. clouds....	
Patna	29.36	745.8	29.54	750.3	88.4	31.3	73	Calm	0.2	0.1	.....	.....	8	.....	.....	0.01	0.3	D. clouds....	
Hazaribagh	27.59	700.8	29.57	751.1	82.6	28.2	75	N	6.1	2.7	.....	.....	6	.....	.....	0	0	Thunder....	
Cuttack	29.52	749.8	29.60	751.9	86.1	30.1	74	E	2.0	0.9	.....	.....	5	.....	.....	0.01	0.3	D. clouds....	
Calcutta (Alipore)	29.56	750.7	29.58	751.2	87.6	30.8	90	SSE	3.0	1.3	.....	.....	5	S	S	0	0	D. clouds....	
Goalpara	29.16	740.8	29.55	750.4	83.2	28.4	81	Calm	0.6	0.3	.....	.....	7	.....	.....	0	0	D. clouds....	
Chittagong	29.56	750.8	29.65	753.2	85.1	29.5	84	W	3.8	1.7	.....	.....	9	.....	.....	0	0	Misty.....	
Sibsagar	29.24	742.6	29.56	750.9	87.2	30.7	74	WSW	2.4	1.1	.....	.....	10	.....	.....	0.12	3.0	D. cloudg....	
Tubbulpore	28.22	716.6	29.56	750.7	85.4	29.7	72	S	0.5	0.2	.....	.....	3	.....	S	0	0	D. clouds....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.76	755.9	30.16	766.0	76.8	24.9	48	W	3.1	1.4	.....	.....	1	.....	.....	0.307	7.8	.....	Prof. Giovanni Clodig
Milan	29.62	752.4	30.12	765.1	81.1	27.3	33	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.04	762.9	30.14	765.6	78.1	25.6	32	SE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.22	742.2	30.09	764.2	80.6	27.0	26	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.91	759.6	30.10	764.4	81.3	27.4	51	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi
Mondovi	28.26	717.7	30.09	764.2	75.7	24.3	29	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.10	764.6	30.15	765.8	75.6	24.2	47	NE	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.85	758.1	30.10	764.5	84.2	29.0	24	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.97	761.3	30.06	763.4	77.4	25.2	66	NW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.83	757.6	30.00	761.9	88.7	31.5	39	SW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.72	754.9	29.97	761.2	81.7	27.6	42	ENE	21.7	9.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.10	739.1	29.94	760.4	87.8	31.0	58	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.86	758.5	30.05	763.2	86.7	30.4	28	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.7	30.04	763.0	78.3	25.7	61	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore
Syracuse	29.89	759.3	29.97	761.1	79.0	26.1	41	NE	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.49	749.1	30.05	763.2	83.7	28.7	58	NE	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 478.5 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.89	759.2	29.90	759.4	81.9	27.7	74	SSW	5.7	2.5	.....	.....	10ck;s	.....	W	6.02	0.66	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.88	758.9	76.2	24.6	93	SE	1.9	0.8	.....	c	1cs;s	.....	.....	0.56	14.22	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.93	760.2	29.99	761.7	77.4	25.2	87	ESE	5.4	2.4	.....	.....	10n	.....	E	0.13	3.30	Thunder storm	The Staff.
Wakayama	29.88	758.9	29.93	760.2	78.0	25.6	78	ENE	3.6	1.6	.....	.....	3cs;s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.03	635.8	30.08	763.9	64.5	12.5	77	Calm	.....	.....	0	.....	4	.....	NE	0.19	4.8	Fair	Prof. L. Peres.
Leon	24.42	620.3	30.03	762.7	64.0	18.3	72	NW	.....	.....	2	1c	1k	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.10	764.5	52.9	11.6	82	Calm	0	0	.....	1k	0	.....	.....	0.04	1.0	Clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.4	16.9	65	NE	.....	.....	1	2c	3ks	NE	NE	0	0	Clouded	M. V. de Leon, M. E
Tlacotalpan	29.92	760.0	29.93	760.3	76.1	24.5	91	SW	.....	.....	1	.....	10	.....	SW	0.41	10.5	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.23	615.4	30.16	766.0	61.0	16.1	79	E	.....	.....	1	4	3	E	E	0	0	Fair	G. Barroeta, M. D
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel
Zacatecas	22.57	573.2	30.12	765.0	67.9	14.4	68	E	.....	.....	1	1c	1s	SE	SE	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	61.6	10.9	79	Calm	0	0	.....	3s	0	NE	.....	0	0	Clear	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda. C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.68	751.3	29.87	758.6	79.2	26.2	93	NW	.....	.....	2	0f	4n	Calm	NW	0	0	Foggy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,536.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.23	767.7	30.23	767.7	66.4	19.1	.....	WSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.10	764.5	30.15	765.9	64.6	18.1	.....	WSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.14	765.5	30.14	765.5	62.6	17.0	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.20	767.0	30.20	767.0	65.8	18.8	74	WSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	30.16	766.0	30.20	767.1	68.7	20.4	69	SW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.7	29.89	759.1	59.4	15.2	68	W	5.4	2.4	.....	.....	3	.....	.....	0.039	1.0	.....	
Brönö	29.80	757.0	29.84	758.0	69.4	20.8	66	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.63	752.5	29.77	756.1	63.5	17.5	74	WNW	11	5	.....	.....	9	.....	.....	0.098	2.5	Light rain..	
Tromsö	29.85	758.2	29.90	759.4	68.0	20.0	57	NNE	4	2	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.99	761.8	30.18	766.5	73.8	23.2	81	SSW	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.6	29.99	761.7	65.0	35.0	22	S	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.3	30.14	765.5	73.0	22.8	66	SW	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.1	30.04	762.9	77.4	25.2	40	SW	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.16	766.0	30.23	767.7	81.0	27.2	61	S	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande,Com'd't
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Quanza,Capt.A.J.deMattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria,Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
St. Vincent, Cape Verd Island	.....	.....	29.93	760.3	78.1	25.6	.....	NE	.....	.....	3	.....	10	.....	NE	2	.....	Raining. 9½ hr's rain.]	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.77	756.2	82.6	28.1	.....	SW	.....	.....	2	.....	7	.....	SW	1	SW	Raining. 2 hours rain.]	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.7	30.01	762.3	60.8	15.7	80	NNW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna..	29.52	749.8	29.93	760.1	67.1	19.5	56	NW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.62	752.3	29.85	758.2	68.9	20.5	65	NNE	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.85	758.3	29.87	758.7	57.6	14.2	90	NE	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.19	741.4	29.79	756.6	80.4	26.9	54	S	7	3	.....	.....	7k;csk	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.81	757.2	29.88	759.0	65.5	29.7	49	S	9	4	.....	.....	6cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758 7	29.89	759.2	81.5	27.5	62	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.21	741.8	29.73	755.1	70.7	21.5	67	NNW	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.56	750.9	29.76	755.8	82.4	28.0	29	W	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.97	761.2	29.99	761.7	59.2	15.1	59	N	9	4	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.45	722.7	29.78	756.3	89.1	31.7	43	S	4	2	.....	.....	4ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.84	758.0	29.76	755 9	89.8	32.1	19	W	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.29	744.0	29.55	750.5	69.8	21.0	67	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.61	726.6	29.52	749 8	70.7	21.5	57	E	7	3	.....	.....	8n;cks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.64	752.9	29.86	758.4	99.0	37.2	22	SSE	4	2	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.22	716.8	29.66	753.4	92.5	33.6	39	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.33	744.9	29.80	756.8	78.3	25.7	59	S	4	2	.....	.....	3	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.63	752.7	29.91	759.8	72.1	22.3	61	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lunar halo..	
Peking (China)	29.50	749.4	29.65	753.0	84.6	29.2	74	SE	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rain & fog..	
Vladivostock	29.68	751.3	29.68	753.8	65.8	18.8	96	SE	34	15	.....	.....	9n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.72	754.9	29.81	757.1	63.9	17.7	90	Calm	0	0	.....	2c	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.04	763.0	30.14	765.5	81.1	27.3	58	SSW	3.0	1.33	.....	.....	1k	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.05	763.2	30.10	764.6	81.0	27.2	56	NW	0.8	0.34	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.6	.....	.....	84.7	29.3	41	NE	9.3	4.17	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.89	708.4	29.94	760.4	97.2	36.2	24	S	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.00	762.0	30.14	765.6	87.1	30.6	59	ENE	6.8	3.06	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.07	738.4	29.91	759.6	91.2	32.9	41	NW	0	0	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.3	30.00	762.0	79.8	26.6	79	E	3.4	1.5	.....	8c;cp	0	ENE	.....	Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.6	29.80	756.9	84.2	29.0	80	NE	0	0	.....	8cs	8ck	E	W	0.197	5.0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	760.0	30.02	762.4	86.5	30.3	44	ESE	25.5	11.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.8	29.97	761.1	82.4	28.0	74	SE	0	0	.....	2c	3k	SE	SE	0	0	Clear	Leonardo deTejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.00	761.9	30.04	762.9	68.2	20.1	....	SSE	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.91	759.8	29.97	761.1	67.3	19.6	41	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.83	757.7	29.88	759.0	64.4	18.0	80	NE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Stockholm	29.63	752.6	29.81	757.1	72.5	22.5	44	S	.....	.....	2	.....	5	.....	.....	0.122	3.1	.....	
Wisby	29.75	755.6	29.81	757.1	63.3	17.4	76	W	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.6	29.80	756.8	69.3	20.7	64	SSW	8.7	3.9	.....	.....	5	.....	.....	0.005	0.13	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 51° 04', E. 1° 29'	.....	.....	30.29	769.4	61.2	16.2	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.83	732.2	30.21	767.3	69.1	20.6	53	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.65	727.7	30.23	767.9	81.1	27.3	52	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.4 mm.; Thermometer, −2.0 Cent.; Relative Humidity, −0 per cent

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	757.8	79.5	26.4	55	N	12	5.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.3	83.3	28.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751 6	29.70	754.4	87.4	30.8	69	NW	.....	.....	1	.....	1s	.....	SE	0	0	D. clouds	Prof. C.V.A.Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.84	757.9	29.90	759.4	58	14.4	84	NW	1	0.4	.....	10s	0	NW	.....	0.46	11.7	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.83	757.7	29.87	758.7	57	13.9	81	N	11	4.9	.....	0	8s	.....	N	1.015	25.78	Clearing	R. J. Cundall, C. E.
Cornwall, Ontario	29.66	753.4	29.84	757.9	66.9	19.4	77	W	.....	.....	3	.....	1s	.....	.....	0.117	2.97	Fair	James Smith, M. A.
Dalhousie, N. B	29.72	754.9	29.88	758.9	56.8	13.8	89	W	.....	.....	1	.....	10ks	.....	.....	0.48	12.2	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.87	758.7	50	10.0	100	Calm	0	0	.....	5k	Fog	.....	Calm	0.55	14.0	Foggy	J. McWilliams.
Fredericton, N. B	29.89	759.2	29.95	760.7	57.9	14.4	82	NE	1	0.4	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.11	739.4	29.92	760.0	55	12.8	93	NW	4	1.8	.....	5ck	2ks	W	W	0.130	3.30	Fair	James Stewart.
Granton, Ontario	28.84	732.5	29.90	759.4	66	18.9	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.81	757.2	29.92	760.0	59	15.0	81	NW	13	5.8	.....	.....	10n	.....	NW	1.284	32.61	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.58	751.3	29.93	760.2	69.7	20.9	83	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.91	759.7	66	18.9	81	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.67	753.6	29.71	754.6	60.0	15.6	89	W	8	3.6	.....	7k	0	W	.....	0.63	16.0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.69	754.1	29.89	759.2	64	17.8	90	SW	1	0.4	.....	.....	8ks	.....	SW	0.74	18.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.19	741.4	29.85	758.2	67	19.4	84	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.18	741.1	29.90	759.4	63.7	17.6	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.92	760.0	68	20.0	90	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S	29.81	757.2	29.86	758.4	58.5	14.7	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.92	760.0	67	19.4	89	W	1	0.4	.....	Haze	0	.....	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.58	751.8	29.89	759.2	60	15.6	94	Calm	.....	.....	0	.....	10n	.....	.....	0.77	19.6	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.42	747.3	29.87	758.7	63	17.2	88	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	58	14.4	81	Calm	.....	.....	0	.....	10n	.....	.....	0.50	12.7	Cloudy	Dr. Gove.
St. John, N. B	29.79	756.7	29.95	760.7	58	14.4	81	NE	2	0.9	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.17	740.9	29.86	758.4	67	19.4	83	S	9	4.0	.....	.....	Haze	.....	.....	0	0	Hazy	K. Stewart.
Stayner, Ontario	29.09	738.9	29.83	757.7	73	22.8	74	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.71	754.6	29.74	755.4	58	14.4	88	W	9	4.0	.....	0	8ks	.....	W	0.55	14.0	Clearing	T. C. Hill.
*Toronto, Ontario	29.66	753.8	29.93	760.2	67	19.4	82	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	29.87	758.7	29.90	759.4	62.0	16.7	88	NW	6	2.7	.....	.....	6k	.....	.....	1.20	30.5	Fair	Prof. John E. Oram.
Woodstock	28.86	733.0	29.88	758.9	67.7	19.8	86	W	3	1.3	.....	0	0	.....	.....	0.2	5.	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.62	752.3	29.87	758.7	50.0	10.0	100	SE	.....	.....	.....	.....	10n	.....	.....	0.65	16.5	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft. or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.74	755.4	29.96	761.0	69	20.6	80	Calm	0	0	.....	1cs	0	W	.....	0.01	0.3	Clear	
Alpena, Michigan	29.18	741.1	29.79	756.7	67	19.4	74	W	15	6.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	47	8.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	28.88	733.5	29.98	761.5	74	23.3	90	SW	5	2.2	.....	.....	10n	.....	Calm	1.33	33.8	Light rain	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	70	21.1	95	SW	5	2.2	.....	2k	Haze	SW	Calm	0	0	Fair	
Augusta, Georgia	29.86	758.4	30.05	763.3	77	25.0	86	SE	2	0.9	.....	2cs	5s	SW	SW	0.37	9.4	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	80	26.7	70	W	2	0.9	.....	5ck	Haze	W	Calm	0	0	Fair	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	75	23.9	90	NW	3	1.3	.....	5k	6s	W	NW	0	0	Cloudy	
Bismarck, Dakota	28.25	717.5	30.11	764.8	52	11.1	86	NW	3	1.3	.....	0	0	.....	.....	0.11	2.8	Clear	
Boerne, Texas	28.55	725.2	29.80	756 9	76	24.4	73	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.14	689.3	30.10	764.5	60	15.6	49	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.78	756.4	29.92	760.0	74	23.3	59	W	8	3.6	.....	2ck	0	W	.....	0	0	Fair	
Brackettville, Texas	28.75	730.2	29.73	755.1	77	25.0	49	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.94	735.1	29.93	760.2	52	11.1	86	NW	9	4.0	.....	5k	0	NW	.....	0.01	0.3	Fair	
Brownsville, Texas	29.89	759.2	29.93	760.2	80	26.7	82	Calm	0	0	.....	5k	0	SE	.....	0	0	Fair	
Buffalo, New York	29.24	742.7	29.90	759.4	71	21.7	80	SW	8	3.6	.....	5k	Haze	SW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	33	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear	
Burlington, Vermont	29.62	752.6	29.90	759.4	71	21.7	66	S	8	3.6	.....	0	0	.....	.....	0.74	18.8	Clear	
Cairo, Illinois	29.69	754.1	30.06	763.5	70	21.1	85	N	2	0.9	.....	.....	10n	.....	SW	0.07	1.8	Light rain	
Campo, California	27.34	694.4	29.91	759.7	68	20.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.07	763.8	30.07	763.8	80	26.7	91	SW	17	7.6	.....	.....	10n	.....	SW	0.13	3.3	Light rain	
Cape Henry, Virginia	29.97	761.2	29.99	761.7	76	24.4	91	SW	4	1.8	.....	.....	10s	.....	SW	0.50	12.7	Threatening	
Cape Lookout, N. Carolina	30.05	763.3	30.07	763.8	80	26.7	87	SW	24	10.7	.....	.....	10n	.....	W	0.08	2.0	Light rain	
Cape May, New Jersey	29.92	760.0	29.95	760.7	73	22.8	95	E	4	1.8	.....	2ck	Fog	W	E	0	0	Fair	
Castroville, Texas	29.21	741.9	29.88	758.9	80	26.7	74	S	2	0.9	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	30.00	762.0	30.05	763.3	84	28.9	75	S	6	2.7	.....	2k	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.20	741.7	29.98	761.5	74	23.3	95	SW	4	1.8	.....	.....	10s	.....	S	0.47	11.9	Cloudy	
Chattanooga, Tennessee	29.23	742.4	30.00	762.0	75	23.9	77	W	2	0.9	.....	2cs	Sm'e	Calm	Calm	0	0	Fair	
Cheyenne, Wyoming	24.17	613.9	30.10	764.5	52	11.1	93	NW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Chicago, Illinois	29.27	743.4	29.92	760.0	70	21.1	70	SW	6	2.7	.....	Haze	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.39	746.5	30.01	762.2	74	23.3	65	N	1	0.4	.....	10k	0	W	.....	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.27	744.4	29.96	761.0	69	20.6	75	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Coleman City, Texas	28.17	715.5	29.74	755.4	78	25.6	54	SW	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.18	741.1	29.98	761.5	72	22.2	71	NW	2	0.9	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
Concho, Texas	28.07	713.0	29.65	753.1	80	26.7	70	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	29.98	761.5	82	27.8	71	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.32	744.7	29.94	760.5	68	20.0	79	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.50	647.7	.....	.....	57	13.9	69	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Decatur, Texas	28.82	732.0	29.93	760.2	80	26.7	78	S	10	4.5	.....	.....	10ks	.....	SW	0.20	5.1	Cloudy	
Denison, Texas	29.17	740.9	29.92	760.0	75	23.9	90	Calm	0	0	.....	.....	10ks	.....	Calm	0.69	17.5	Cloudy	
Denver, Colorado	24.87	631.7	30.09	764.3	63	17.2	67	NW	2	0.9	.....	2ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.06	738.1	29.90	759.4	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.27	743.4	29.91	759.7	66	18.9	79	W	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.48	698.0	29.69	754.1	67	19.4	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dubuque, Iowa	29.23	742.4	29.93	759.4	69	20.6	70	SW	3	1.3	.....	5k	0	SW	.....	0	0	Fair	
Duluth, Minnesota	29.13	739.9	29.78	756.4	62	16.7	83	NW	14	6.3	.....	0	0	.....	.....	1.36	34.5	Clear	
Eagle Pass, Texa	29.20	741.7	29.89	759.2	79	26.1	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.88	758.9	29.94	760.5	57	13.9	87	W	1	0.4	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	84	28.9	75	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.20	665.5	.....	.....	70	21.1	80	SE	2	0.9	.....	5cs	2s	SE	SE	0.85	21.6	Fair	
Erie, Pennsylvania	29.24	742.7	29.92	760.0	72	22.2	76	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.12	739.6	29.75	755.6	63	17.2	89	SW	4	1.8	.....	.....	10ks	.....	SW	0.37	9.4	Cloudy	
Florence, Arizona	28.43	722.1	30.03	762.7	79	26.1	43	SE	1	0.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.00	711.2	.....	.....	53	11.7	79	SW	2	0.9	.....	2cs	Sm'e	NW	Calm	0.12	3.0	Fair	
Fort Davis, Texas	25 29	642.4	30.25	768.3	72	22.2	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.97	761.2	75	23.9	90	Calm	0	0	.....	.....	10s	.....	S	0.20	5.1	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	73	22.8	59	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.73	729.7	29.94	760.5	78	25.6	73	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.48	698.0	.....	.....	61	16.1	82	NE	4	1.8	.....	Haze	Sm'e	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.76	705.1	29.59	751.6	75	23.9	56	S	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.90	759.4	71	21.7	95	NW	18	8.0	.....	.....	10n	.....	NW	0.42	10 7	Light rain	
Fort Stevenson, Dakota	28.21	716.5	.....	.....	50	10.0	86	Calm	0	0	.....	.....	8s	.....	Calm	0.12	3.0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	68	20.0	60	W	.....	.....	1	0	0	.....	.....	0.22	5.6	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.27	718.0	29.75	755.6	79	26.1	62	SW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.96	761.0	30.01	762.2	83	28.3	75	SW	4	1.8	.....	8cs	Haze	Calm	Calm	0	0	Fair	
Graham, Texas	28.90	734.0	29.90	759.4	79	26.1	78	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair	
Grand Haven, Michigan	29.25	742.9	29.86	758.4	73	22.8	72	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.91	759.7	75	23.9	90	E	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.24	742.7	29.98	761.5	69	20.6	80	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Indianola, Texas	29.97	761.2	30.00	762.0	81	27.2	83	S	4	1.8	.....	10cs	0	SW	.....	0	0	Cloudy	
Jacksboro, Texas	28.85	732.8	29.92	760.0	76	24.4	91	SE	8	3.6	.....	8ck	0	SW	.....	0	0	Fair	
Jacksonville, Florida	30.06	763.5	30.08	764.0	83	28.3	79	SE	6	2.7	.....	5cs;k	0	SE	.....	0	0	Fair	
Keokuk, Iowa	29.34	745.2	29.92	760.0	75	23.9	77	SW	7	3.1	.....	0	2s	.....	W	0	0	Clear	
Key West, Florida	30.00	762.0	30.03	762.7	80	26.7	82	SE	3	1.3	.....	.....	10ks	.....	SE	0.14	3.6	Threatening	
Kittyhawk, North Carolina	29.93	760.2	29.96	761.0	78	25.6	91	W	14	6.3	.....	.....	10s	.....	W	1.57	39.9	Cloudy	
Knoxville, Tennessee	29.04	737.6	30.01	762.2	71	21.7	85	N	1	0.4	.....	1ck	5s	Calm	Calm	0	0	Fair	
La Crosse, Wisconsin	29.08	738.6	29.78	756.4	70	21.1	75	W	8	3.6	.....	8k	2ks	W	W	0	0	Cloudy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	70	21.1	75	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Laredo, Texas	29.54	750.3	29.86	758.4	85	29.4	51	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.15	740.4	29.96	761.0	69	20.6	80	S	1	0.4	.....	2ck	0	W	.....	0	0	Clear	
Little Rock, Arkansas	29.64	752.8	29.98	761.5	78	25.6	91	Calm	0	0	.....	0	8s	.....	W	Inap.	Inap	Cloudy	
Los Angeles, California	29.53	750 0	29.86	758.4	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.46	748.3	30.00	762.0	71	21.7	71	N	5	2.2	.....	.....	10c	.....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.33	745.0	29.97	761.2	84	28.9	64	SW	2	0.9	.....	1c	2s	SW	W	0	0	Fair	
Madison, Wisconsin	28.89	733.8	29.83	757.7	68	20.0	74	SW	8	3.6	.....	2cs	0	W	.....	0	0	Fair	
Marquette, Michigan	29.04	737.6	29.71	754.6	65	18.3	84	Calm	0	0	.....	.....	10n	.....	Calm	0.94	23.9	Light rain	
Mason, Texas	28.37	720.6	30.04	763.0	80	26 7	55	SW	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Memphis, Tennessee	29.65	753.1	29.98	761.5	73	22 8	90	NE	6	2.7	.....	.....	10n	.....	SW	0.32	8 1	Light rain	
Milwaukee, Wisconsin	29.15	740.4	29.84	757.9	69	20.6	65	SW	16	7.2	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	30.00	762.0	30.04	763.0	78.5	25.8	93	Calm	0	0	.....	.....	10s	.....	Calm	0.93	23.6	Cloudy	
Montgomery, Alabama	29.83	757.7	30.06	763.5	76	24.4	92	S	2	0.9	.....	.....	10ks	.....	S	0.61	16.3	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Morgantown, West Virginia	29.03	737.3	29.98	761.5	70	21.1	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Mt. Washington, N. H.....	23.89	606.8	30.25	768.3	48	8.9	92	NW	19	8.5	.....	.....	Fog	.....	NW	Inap.	Inap.	Foggy.....	
Nashville, Tennessee.....	29.51	749.5	30.02	762.5	74	23.3	81	NW	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
New Haven, Connecticut.....	29.85	758.2	29.96	761.0	73	22.8	81	Calm	0	0	.....	5ck	Haze	SW	Calm	0	0	Fair.....	
New London, Connecticut...	29.90	759.4	29.94	760.5	77	25.0	65	Calm	0	0	.....	1ck	0	W	.....	0	0	Clear.....	
New Orleans, Louisiana.....	29.96	761.0	30.02	762.5	81	27.2	78	W	4	1.8	.....	.....	10s	Calm	Calm	0	0	Cloudy.....	
Newport, Rhode Island.....	29.90	759.4	29.95	760.7	74	23.3	72	W	1	0.4	.....	5k	0	W	.....	0	0	Fair.....	
New York, New York.....	29.79	756.7	29.96	761.0	76	24.4	72	W	1	0.4	.....	2cs	Haze	W	.....	0	0	Dense haze.	
Norfolk, Virginia.....	29.94	760.5	29.99	761.7	80	26.7	82	SW	12	5.4	.....	.....	8s	.....	SW	0.11	2.8	Cloudy.....	
North Platte, Nebraska.....	27.14	689.3	29.64	752.8	62	16.7	94	W	7	3.1	.....	0	Haze	.....	Calm	0.04	1.0	Clear.....	
Olympia, Washington Ter..	29.90	759.4	29.94	760.5	52.0	11.1	96	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska.....	28.81	731.8	29.85	758.2	73	22.8	76	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York.....	29.64	752.8	29.95	760.7	69	20.6	80	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pembina, Dakota.....	29.05	737.9	29.87	758.7	50	10.0	93	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.90	759.4	29.95	760.7	78	25.6	82	W	5	2.2	.....	1c	Fog	W	Calm	0.01	0.3	Clear.....	
Phœnix, Arizona.....	28.69	728.7	30.39	771.9	82	27.8	63	Calm	0	0	.....	0	2s	.....	Calm	0.11	2.8	Fair.....	
Pike's Peak, Colorado.....	18.07	459.0	30.28	769.1	36	2.2	61	NW	16	7.2	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Pilot Point, Texas.....	29.08	738.6	29.88	758.9	88	31.1	69	SE	13	5.8	.....	8k	2s	S	SE	0	0	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	64	17.8	53	S	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear.....	
Pittsburg, Pennsylvania....	29.20	741.7	29.97	761.2	71	21.7	85	NW	2	0.9	.....	2c	Fog	Calm	Calm	0	0	Fair.....	
Port Huron, Michigan.....	29.25	742.9	29.85	758.2	66	18.9	79	SW	7	3.1	.....	0	5ks	.....	Calm	Inap.	Inap.	Fair.....	
Portland, Maine.....	29.89	759.2	29.94	760.5	63	17.2	89	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Portland, Oregon.....	29.87	758.7	29.94	760.5	61.5	16.4	80	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.84	630.9	30.20	767.1	61	16.1	77	SE	.....	.....	1	0	0	.....	.....	0.49	12.4	Clear.....	
Punta Rassa, Florida.....	30.02	762.5	30.03	762.7	82	27.8	75	E	12	5.4	.....	2cs	0	SW	.....	0.02	0.5	Clear.....	
Red Bluff, California.....	29.47	748.5	29.81	757.2	75	23.9	52	S	2	0.9	.....	1c	0	S	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.76	755.9	29.97	761.2	80	26.7	78	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Clear.....	
Rochester, New York.....	29.34	745.2	29.93	760.2	68	20.0	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon.....	29.36	745.7	29.91	759.7	60	15.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.73	755.1	29.81	757.2	61	16.1	77	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.46	748.3	30.02	762.5	69	20.6	80	W	2	0.9	.....	5ck	Sm'e	W	....	0.02	0.5	Fair.....	
St. Marks, Florida.....	30.06	763.5	30.07	763.8	77	25.0	86	NW	4	1.8	.....	9	0	.....	.....	0	0	Clear.....	
St. Paul, Minnesota.....	29.00	736.6	29.79	756.7	65	18.3	78	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
Salt Lake City, Utah.....	25.69	652.5	30.02	762.5	63	17.2	28	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear.....	
San Antonio, Texas.....	29.30	744.2	29.86	758.4	80	26.7	78	SE	2	0.9	.....	0	0	.....	....	0	0	Clear.....	
San Diego, California.....	29.82	757.4	29.90	759.4	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.31	744.5	29.95	760.7	70	21.1	70	SW	8	3.6	.....	2c	2s	W	Calm	0	0	Fair.....	
Sandy Hook, New Jersey...	29.93	760.2	29.96	761.0	78	25.6	78	W	5	2.2	.....	5ck	Haze	W	Calm	0	0	Fair.....	
San Francisco, California..	29.81	757.2	29.87	758.7	56	13.3	90	W	10	4.5	.....	0	Fog	.....	W	0	0	Fair.....	
Santa Fé, New Mexico.....	23.43	595.1	29.97	761.2	56	13.3	81	N	2	0.9	.....	0	8s	.....	N	0.04	1.0	Fair.....	
Savannah, Georgia.....	30.00	762.0	30.08	764.0	83	28.3	79	SW	6	2.7	.....	2c	0	Calm	.....	0	0	Fair.....	
Shreveport, Louisiana.....	29.77	756.1	29.98	761.5	78	25.6	86	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Silver City, New Mexico,...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.07	763.8	30.10	764.5	81	27.2	96	SW	13	5.8	.....	0	8ks	.....	SW	0.08	2.0	Cloudy.....	
Socorro, New Mexico.....	25.48	647.2	29.54	750.3	68	20.0	56	N	2	0.9	.....	5ck	2s	N	Calm	c	0	Cloudy.....	
Springfield, Ill	29.45	748.0	30.11	764.8	69	20.6	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	29.84	757.9	29.96	761.0	76	24.4	69	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas.....	26.96	684.8	29.96	761.0	76	24.4	2	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass....	29.90	759.4	29.96	761.0	71	21.7	80	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.28	743.7	29.93	760.2	70	21.1	75	W	7	3.1	.....	5c;hz	Haze	SW;Calm.	Calm	0	0	Hazy.....	
Tucson, Arizona.....	27.49	698.2	30.04	763.0	80	26.7	66	Calm	0	0	.....	2c	0	Calm	....	0.03	0.8	Fair.....	
Umatilla, Oregon.....	29.52	749.6	30.00	762.0	64.0	17.8	53	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.05	737.9	29.84	757.9	78	25.6	69	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.76	755.9	30.00	762.0	80	26.7	82	S	5	2.2	.....	5cs	2s	NW	S	0	0	Fair.....	
Virginia City, Montana.....	24.39	619.5	29.87	758.7	53	11.7	36	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.41	747.0	29.77	756.1	64	17.8	63	SE	2	0.9	.....	0	0	.....	....	0	0	Clear.....	
Washington, D. C.....	29.86	758.4	29.97	761.2	78	25.6	82	NW	4	1.8	.....	5ck	Haze	SW	.....	0.03	0.8	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	75	23.9	37	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	29.99	761.7	30.06	763.5	77	25.0	91	SW	10	4.5	.....	8k	0	SW	.....	0.97	24.6	Fair.....	
Winnemucca, Nevada.....	25.05	662.3	30.04	763.0	59	15.0	23	NE	3	1.3	.....	1ck	0	Calm	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.91	759.7	29 94	760.5	72	22.2	80	SW	6	2.7	.....	2ck	0	Calm	.....	0	0	Clear.....	
Yankton, Dakota.....	28.74	730.0	29.99	761.7	60	15.6	76	NW	7	3.1	.....	5ck	0	NW	.....	0	0	Fair.....	
Yuma, Arizona.....	29.68	753.9	29.84	757.9	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.93	760.2	29.98	761.5	82	27.8	74	E	2.4	1.1	.....	8c	0	Calm	.....	0.02	0.5	Cloudy.....	Chas. Hasselbrink
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A....	25.16	639.0	.....	.....	68.0	20.0	78	Calm	.....	.....	0	.....	9s;ks	.....	.....	0.01	0.3	.....	Thomas Herran.
Navassa, W. I.....	29.82	757.4	29.90	759.4	84	28.9	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	29.95	760.7	29.95	760.7	83	28.3	79	SE	.....	.....	2	2c	4k	SE	.....	0.270	6.86	Fair.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	81	27.2	87	NW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.96‡	761.0‡	.....	.....	78	25.6	88	ENE	.....	.....	2	.....	10ks;k	.....	E	0.31	7.9	.....	.....	Cloudy.....	
Adams. Mare I'd, Navy Yard, Cal.	29.84‡	757.9‡	.....	.....	60	15.6	94	SSW	.....	.....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Alliance, Copenhagen, Denmark...	30.01‡	762.2‡	.....	.....	63	17.2	?	WNW	.....	.....	3–4	.....	5	.....	WNW	.....	.....	.....	.....	Raining	
Ashuelot, Yokohama, Japan	29.96‡	761.0‡	.....	.....	78	25.6	91	E	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	
Colorado. New York, N. Y.....	29.91‡	759.7‡	.....	.....	73	22.8	85	NNE	4	1.8	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Constellation. Off Rye Harbor, N. H....	29.92‡	760.0‡	.....	.....	64	17.8	83	NE	.....	.....	1	.....	5?	.....	SW	0	0	Mod'ate	SSE	Hazy.....	
Constitution. Navy Yard, Brooklyn, N.Y.	29.98‡	761.5‡	.....	.....	73	22.8	81	NNW	.....	.....	2	.....	7	.....	Calm	.....	.....	.....	.....	Fair.....	
Enterprise, Cronstadt, Russia.....	29.84‡	757.9‡	.....	.....	58	14.4	94	N	.....	.....	3	.....	10	.....	N	Blank	Blank	.....	.....	Cloudy.....	
Essex, Buenos Ayres, Argentine Rep., S. A	29.94‡	760.5‡	.....	.....	45	7.2	76	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	.....	Fair.....	
Franklin. Norfolk, Va.	29.98‡	761.5‡	.....	.....	78	25.6	91	SW	10.8	4.8	.....	.....	10	.....	WSW	0.14	3.6	.....	.....	Cloudy.....	
Hartford S. 29° 33', W. 42° 23'.....	30.08‡	764.0‡	.....	.....	71	21.7	90	N	.....	.....	4	.....	5	.....	N	0	0	Smooth	.....	Fair.....	
Independence, Mare I'd. Navy Yard, Cal.	29.85‡	758.2‡	.....	.....	64	17.8	83	SW	4	1.8	.....	.....	2?	.....	SSW	.....	.....	.....	.....	Cloudy?.....	
Kearsarge, N. 40° 22', W. 56° 50'.....	29.62‡	752.3‡	.....	.....	55	12.8	93	WNW	.....	.....	5–6	.....	10	.....	WNW	.....	.....	Mod'ate	WNW	Threat'ing..	
Michigan. Chicago, Ill.....	29.89‡	759.2‡	.....	.....	67.5	19.7	79	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Monocacy. Shanghai, China.....	29.73‡	755.1‡	.....	.....	80	26.7	96	SSE	.....	.....	2	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy.....	
Monongahela, Yokohama, Japan.....	29.99‡	761.7‡	.....	.....	80	26.7	100	ESE	.....	.....	1	.....	n	.....	.....	Light	Light	.....	.....	Misty.....	
New Hampshire. Port Royal, S. C.....	30.08‡	764.0‡	.....	.....	83	28.3	87	SW	14	6.3	.....	.....	8	.....	E; SW	0	0	.....	.....	Fair	
Onward, Callao, Peru. .....†.	29.95‡	760.7‡	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Cloudy.....	
Palos. Shanghai, China.....	29.74‡	55.4‡	.....	.....	81	27.2	91	SE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.....	.....	.....	.....	.....	78	25.6	86	SW	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru.....	29.94‡	760.5‡	.....	.....	61	16.1	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Portsmouth. Boston, Mass.....	29.94‡	760.5‡	.....	.....	75	23.9	55	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Powhatan, Chester, Penn	29.96‡	761.0‡	.....	.....	77	25.0	82	Calm	.....	.....	0	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Quinnebaug, Constantinople, Turkey	29.81‡	757.2‡	.....	.....	79	26.1	91	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Foochow, China.....	29.61‡	752.1‡	.....	.....	84	28.9	87	N	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds....	
Richmond, Yokohama, Japan	29.98‡	761.5‡	.....	.....	80	26.7	87	ENE	.....	.....	2	.....	10	.....	.....	0.22	5.6	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.94‡	760.5‡	.....	.....	79	26.1	95	SE	.....	.....	1	.....	2	.....	E	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md.....	29.98‡	761.5‡	.....	.....	78	25.6	82	NW	.....	.....	1	.....	2	.....	W	0.01	0.3	.....	.....	Clear	
Saratoga, Gardner'sBay, LongI'd., N.Y	29.97‡	761.2‡	.....	.....	72	22.2	95	NNW	.....	.....	0–1	.....	5	.....	NE	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa	29.95‡	760.7‡	.....	.....	77	25.0	86	NW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Copenhagen, Denmark...	29.95‡	761.5‡	.....	.....	71	21.7	53	WNW	.....	.....	2–4	.....	8	.....	WNW	0	0	Smooth	.....	Squally.....	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.86‡	758.4‡	.....	.....	63	17.2	94	WNW	.....	.....	2	.....	10	.....	Calm	0	0	Smooth	.....	Overcast....	
Vandalia, Chester, Penn	29.95‡	760.7‡	.....	.....	76	24.4	91	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	Fair	
Wabash, Boston, Mass.....	29.90‡	759.4‡	.....	.....	70	21.1	70	NW	7	3.1	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Wyoming, Phalerum Bay, Greece.	29.81‡	757.2‡	.....	.....	84	28.9	47	S	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	S	Clear.....	
Wachusett, New Orleans, La	30.04‡	763.0‡	.....	.....	81	27.2	87	W	.....	.....	2	.....	8	.....	W	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Column key: (1) True course toward— ; Barometer reduced to sea-level: (2) Inches, (3) Millimeters; Temperature of the air: (4) Fahrenheit, (5) Centigrade; Relative humidity: (6) Per cent; Wind: (7) Direction, From—, Velocity: (8) Miles per hour, (9) Meters per second, (10) Force 0—10; Clouds: Amount: (11) Up'er 0—10, (12) Low'r 0—10, Direction: (13) Upper, From—, (14) Lower, From—; (15) Rain-fall or melted snow in the past 24 hours; Sea-swell: (16) Character, (17) Direction from—; (18) Weather; Observer.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

Names of vessels	True course toward—	Barometer, Inches	Barometer, Millimeters	Temp., Fahrenheit	Temp., Centigrade	Relative humidity, Per cent	Wind, Direction, From—	Wind, Miles per hour	Wind, Meters per second	Wind, Force 0—10	Clouds, Amount, Up'er 0—10	Clouds, Amount, Low'r 0—10	Clouds, Direction, Upper, From—	Clouds, Direction, Lower, From—	Rain-fall or melted snow in the past 24 hours	Sea-swell, Character	Sea-swell, Direction from—	Weather	Observer
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

Names of vessels	True course toward—	Barometer, Inches	Barometer, Millimeters	Temp., Fahrenheit	Temp., Centigrade	Relative humidity, Per cent	Wind, Direction, From—	Wind, Miles per hour	Wind, Meters per second	Wind, Force 0—10	Clouds, Amount, Up'er 0—10	Clouds, Amount, Low'r 0—10	Clouds, Direction, Upper, From—	Clouds, Direction, Lower, From—	Rain-fall or melted snow in the past 24 hours	Sea-swell, Character	Sea-swell, Direction from—	Weather	Observer
S. S. China																			
S.S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio Capt. Maury																			L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse,																			W. House.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. O. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

Names of vessels	True course toward—	Barometer, Inches	Barometer, Millimeters	Temp., Fahrenheit	Temp., Centigrade	Relative humidity, Per cent	Wind, Direction, From—	Wind, Miles per hour	Wind, Meters per second	Wind, Force 0—10	Clouds, Amount, Up'er 0—10	Clouds, Amount, Low'r 0—10	Clouds, Direction, Upper, From—	Clouds, Direction, Lower, From—	Rain-fall or melted snow in the past 24 hours	Sea-swell, Character	Sea-swell, Direction from—	Weather	Observer
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

Names of vessels	True course toward—	Barometer, Inches	Barometer, Millimeters	Temp., Fahrenheit	Temp., Centigrade	Relative humidity, Per cent	Wind, Direction, From—	Wind, Miles per hour	Wind, Meters per second	Wind, Force 0—10	Clouds, Amount, Up'er 0—10	Clouds, Amount, Low'r 0—10	Clouds, Direction, Upper, From—	Clouds, Direction, Lower, From—	Rain-fall or melted snow in the past 24 hours	Sea-swell, Character	Sea-swell, Direction from—	Weather	Observer
S. S. Belgic, Capt. L. Meyer, N. 41° 43', E. 170° 47' †		29.93‡	760.2‡	64	17.8	100	SSW			5		Fog			Blank	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 45° 08', W. 145° 46' †		30.34‡	770.6‡	56	13.3	100	Var.			1		ks		N	0	Smooth	NNW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

Names of vessels	True course toward—	Barometer, Inches	Barometer, Millimeters	Temp., Fahrenheit	Temp., Centigrade	Relative humidity, Per cent	Wind, Direction, From—	Wind, Miles per hour	Wind, Meters per second	Wind, Force 0—10	Clouds, Amount, Up'er 0—10	Clouds, Amount, Low'r 0—10	Clouds, Direction, Upper, From—	Clouds, Direction, Lower, From—	Rain-fall or melted snow in the past 24 hours	Sea-swell, Character	Sea-swell, Direction from—	Weather	Observer
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 39° 56', W. 58° 20'		30.09‡	764.3‡	76.0	24.4	91	WSW			6		5		W	0	Long	W	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 53', W. 54° 16'		29.95‡	760.7‡				W			6		5		W		6	W	Cloudy?	Capt. G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the last 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.91‡	759.7‡	79	26.1	86	S			3		1		S	0			Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Anerold. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, Monomoy, Vineyard Sound, Mass.		29.86‡	758.4‡	73	22.8	81	Calm	0	0		5c		W		0	Short		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe. Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Anerold. ‡Corrections for temperature, instrumental error and elevation applied at this office.

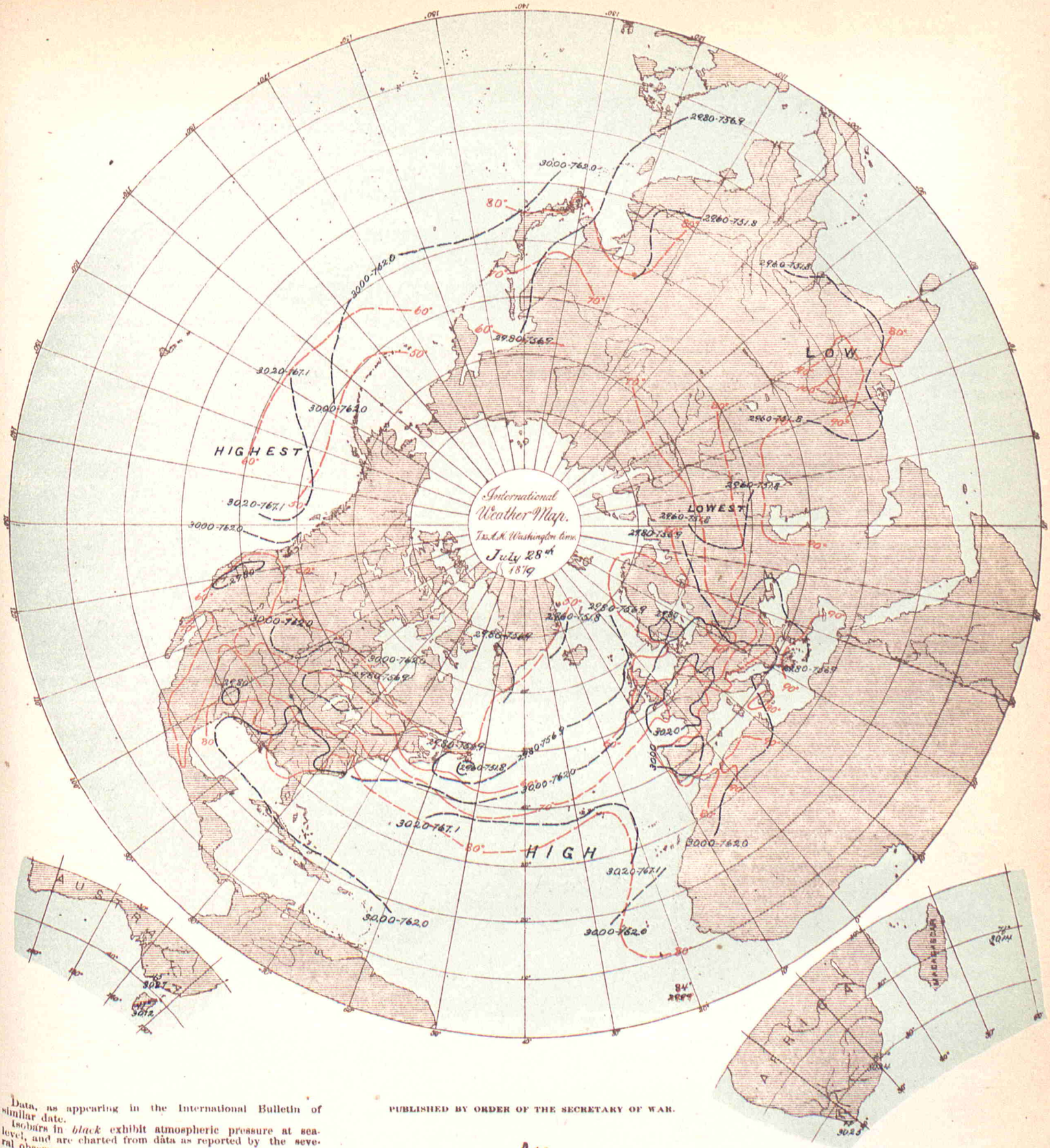
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, *D.* clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.3	69.8	20 7	.....	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.01	763.1	79.7	26.5	71	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.01	762.3	77.4	25.2	69	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.09	764.2	75.4	24.1	85	NE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.04	763.1	96.8	36.0	16	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.06	763.5	90.3	32.4	30	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	81.0	27.2	26	WSW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	29.98	761.5	99.7	37.6	28	W	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.03	762.7	100.4	38.0	26	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.63	752.5	30.16	766.0	74.1	23.4	39	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.38	746.2	30.13	765.3	68.0	20.0	60	SSW	6.5	2.9	.....	.....	9	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.20	741.7	30.06	764.5	66.7	19.3	58	N	.....	.....	2	.....	9ks	.....	S	0.051	1.30	.....	Julius Mikolik.
Gratz	28.94	735.1	30.15	765.9	72.1	22.3	61	S	.....	.....	3	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.65	727.8	30.08	763.9	68.1	14.5	84	S	.....	.....	1	.....	10	.....	.....	0.102	2.6	.....	Prof. A. Gottschling.
Kremsmünster	28.82	732.1	30.11	764.9	72.0	22.7	66	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.99	736.4	29.97	761.2	68.5	14.6	81	NW	.....	.....	2	.....	10	.....	.....	0.394	10.0	.....	Dr. T Stanecki.
Pola	30.05	763.2	30.15	765.9	77.5	25.3	48	W	.....	.....	3	.....	4	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.63	752.7	30.09	764.3	64.4	18.0	62	NW	.....	.....	2	.....	10	.....	.....	0.051	1.3	.....	Julius Csics, S. J.
Szegedin	29.68	753.8	29.95	760.7	72.1	22.3	52	N	.....	.....	1	.....	2	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.08	764.1	30.19	766.7	78.1	25.6	46	NW	.....	.....	1	.....	3	.....	.....	0	0	.....	P. Busin.
Vienna	29.47	748.4	30.21	767.3	72.0	22.2	48	NNW	.....	.....	1	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.79	756.7	29.88	758.9	63.0	17.2		S	24	10.7			5			0	0	Blue sky	W. Boswell.
Ardrossan	29.85	758.2	29.87	758.7	61	16.1		S			3		7					D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.63	752.6	29.84	757.9	65.8	18.8		S	14	6.3			9					Squally	S. Call.
Bidston (Liverpool Obs)			29.96	761.0	70.2	21.2		SSE	14	6.3			10					Overcast	John Hartnup.
Bolton (Sharples)			29.96	761.0	67.5	19.7		SSW	18	8.0			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.59	751.6	29.99	761.7	73.0	22.8		SW					7			0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.88	758.9	29.92	760.0	82	27.8		NE			1		6					Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.95	760.7	30.04	763.0	76.9	24.9		S			1		5			0	0	D. clouds	H. Todd.
Cardington			30.03	762.7	76.6	24.4		S			1		7					D. clouds	John McLaren.
Chatham, School M. E.	29.94	760.5	30.07	763.3	73.7	23.2		SE			1		6					D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.85	758.2	29.89	759.2	62	16.7		SSW			1		8					D. clouds	J. Mac Gowan.
Dover	30.03	762.7	30.06	763.5	67	19.4		ESE			5		1					¼ clouded	J. Costello.
Falmouth, Observatory	29.76	755.9	29.99	761.7	61.9	16.6		E			2		3					D. clouds	The Staff.
Fort Napier (Natal)	27.92	709.2	30.21	767.3	68.0	20.0		E			1		2					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	80	26.7		Calm?			2		5					D. clouds	
Galway, Queen's College			29.75	755.6	63	17.2		SSW			1?		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.91	759.7	29.96	761.0	66.8	30.4		E			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.67	753.6	29.87	758.7	65.8	18.8		S			3		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.10	764.5	30.11	764.8	64	17.8		SSE			6		0					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.04	763.0	74.0	23.3		SE			2		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.77	756.1	29.98	761.5	70.5	21.4		ESE			1		0					Blue sky	Dr. S.E.Hoskins,F.R.S.
Helston	29.94	760.5	30.06	763.5	63	17.2		E			2		4k			0.01	0.3	Foggy	M. P. Moyle.
Holyhead	29.95	760.7	29.95	760.7	66	18.9		SW			4		1					Blue sky	John Tilston.
Jersey	29.68	753.9	29.96	761.0	77.1	25.1		SE			2		0					Blue sky	J. Fisher.
Kew, Observatory	30.01	762.2	30.04	763.0	74.0	23.3		ESE	11	4.9			8					D. clouds	The Met'g'l Office.
Leicester, Museum	29.78	756.4	30.02	762.5	72.7	22.6		SW			1		8					D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.92	760.0	29.99	761.7	81.4	27.4		E			2		0					Blue sky	A. King.
Nairn	29.69	754.1	29.78	756.4	68	20.0		SW			1		2					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.03	762.7	83.8	28.8		SE			1		6k		SSW	Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.85	758.2	30.03	762.7	80.2	26.8		S			4		9			0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.49	749.0	30.00	762.0	71.3	21.8		S			3		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.04	763.0	72	22.2		SE			1		6					D. clouds	H. E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	71.6	22.0		E			3		0					Blue sky	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.86	758.4	29.96	761.5	62	16.7		SSW			4		10					Covered	Wm. Kennedy.
Saint Ann's Head	29.81	757.2	29.97	761.2	62	16.7		SSE			1		3					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.87	758.7	60.5	15.8		SE	20	8.9			0					Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.76	755.9	29.82	757.4	85.2	29.6		NNE			2		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.76	755.9	30.03	762.7	74.0	23.3		WSW			3		7			Blank	Blank	D. clouds	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	67.7	19.8	83	W			3		10			0.033	0.84	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory			29.99	761.7	69.9	21.1		S	14	6.3			7					D. clouds	Rev. S. J. Perry.
Strathfield, Turgiss	29.84	757.9	30.04	763.0	79.4	26.3		SW			2		3					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.00	762.0	30.01	762.2	74	23.3		SE			6		3					D. clouds	W.Newcombe.
Valencia, Observatory	29.78	756.4	29.81	757.2	61.6	16.4		S	38	17.0			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.91	759.7	29.95	760.7	65.0	18.3	40	SW	6.6	3.0		0	1			0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.04	763.0	45	7.2	86	NW			1		k			0	0	Cloudy	FrancisAbbott, F.R.A.S
Leith, Restalrig Park			29.93	760.2	68.0	20.0		W			4		8k			0.05	1.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.0	72.5	22.5	58	SE	18.0	8.0		0	1			0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767 3	47.7	8.7	80	NE	6	2.7			8			0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)																			J. Youngclause.
North Unst (Shetland Is.)																			Robert Burnet.
Colesberg Bridge																			

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10'. E. 29° 05'	ENE		2		0					Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 50° 35', W. 22° 10'	WNW		2		6	W		2	WSW	D. clouds	Capt. Wm. Watson.
Agnes Wilson, N. 49° 30', W. 6° 50'	SW		1		10			3	NW	Foggy	Capt. H. W. Dyke.
Atmosphere, N. 48° 50' W. 51° 15'	W		6		6			6	W	D. clouds	
Barque Commewyne, N. 38° 40', W. 50° 55'	WSW		5		2					Misty	Capt. A. Buchan.
Garden Castle, N. 37° 45', W. 14° 35'	N		2		3			2	N	D. clouds	
German Brig "W. von Freeden" N. 23° 10', W. 74° 30'	E		5		5					D. clouds	Capt. H. v. Freeden.
Theophane, N. 5° 00', W. 22° 05'	S		2		2					Blue sky	Capt. Greig.
S. S. Amanda											Capt. B. Boyes.
Barque Belle-Isle											Capt. A. J. Brown.
Ship British Commodore											Capt. J. W. Thorne.
S. S. Royal Alexandra											W. P. Hughes.
Brig Alliance											Capt. W. Scott.
S. S. Iron Cross											Capt. W. Randall.
S. S. Nizam											Capt. Barlow.
Barque Fedalma											Capt. H. L. Fox.
British Peer											Capt. Raymond.
Astarte											Capt. Parson.

Note.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. *The barometers and thermometers used by these observers have generally been carefully compared and corrected, but apparently not reduced to sea-level. †Correction for temperature and elevation applied at this office. §The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.17	664.7	29.89	759.2	68.4	20.2	95	SE	.....	.....	1	9ks	.....	.....	.....	0.9	23.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.02	762.5	30.07	763.7	62.8	17.1	97	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.
Fanöe	30.10	764.6	30.12	765.1	66.0	18.9	84	W	.....	.....	2	.....	2	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.86	758.4	29.90	759.5	42.8	6.0	91	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	Foggy
Stykkisholm (Iceland)	29.53	750.0	29.57	751.1	51.1	10.6	98	NE	.....	.....	0	.....	8	.....	.....	.....	.....	Raining
Thorshavn (Faröe)	29.67	753.8	29.71	754.5	55.8	13.2	88	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining
Vestervig	29.97	761.2	30.08	764.0	64.0	17.8	90	WSW	.....	.....	2	.....	1	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.2	30.01	762.2	82.4	28	44	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	29.98	761.6	30.09	764.2	82.0	27.8	57	ESE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Arras, Engin'r School	29.82	757.5	30.08	763.9	75.7	24.3	59	SE	.....	.....	1	.....	.....	.....	S	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.04	762.9	30.11	764.9	86.0	30	23	SSW	.....	.....	3	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.52	749.7	30.05	763.2	77.5	25.3	44	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.78	756.5	30.04	763.0	76.1	24.5	55	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Frere Eugene Marie.
Besançon, Normal School	29.23	742.4	30.05	764.1	78.4	25.8	57	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.5	30.17	766.3	84.2	29	36	S	.....	.....	5	.....	0	.....	.....	0	0	Clear	Mariot, Director.
Bourges, Normal School	29.47	748.6	30.00	762.0	77.0	25	61	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.66	753.4	29.91	759.6	80.6	27.0	64	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.62	752.3	30.01	762.2	81.0	27.2	45	E	.....	.....	3	.....	1	.....	E	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	29.89	759.1	29.96	761.0	80.2	26.8	46	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Lair, Director.
Chartres, Normal School	29.47	748.4	30.00	762.0	81.7	27.6	75	E	.....	.....	3	.....	2	.....	W	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.77	756.2	30.03	763.9	80.6	27.0	49	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.63	727.1	29.89	759.2	88.5	31.4	30	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.26	743.2	30.11	764.8	77.5	25.3	35	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. Coulet, Director.
Commune de Gréasque*	29.06	738.0	30.20	767.0	88.5	31.4	27	S	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.34	745.2	30.07	763.6	78.8	26.0	62	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	29.73	755.2	29.94	760.4	85.3	29.6	47	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.67	754.7	29.96	761.0	80.6	27	48	ESE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Poirrier, Director
Lons-Le-Saulnier, N. School	29.26	743.2	30.15	765.8	81.5	27.5	41	SW	.....	.....	5	.....	0	.....	.....	0	0	Very clear	A. Baudry, Director.
Lorient, Naval Observatory	29.87	758.6	29.97	761.2	72 7	22.6	68	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin Director.
Marseilles, Observatory	29.80	756.9	30.06	763.5	87.1	30.6	52	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.04	737.6	30.04	763.1	73.4	23	59	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightlycl'dy	Barbier, Director.
Mont-Louis	25.03	635.8	30.35	770 8	78.8	26.0	34	S	18.6	8.3	.....	.....	5	.....	NW	0	0	.....	[illegible] Clave.
Nismes, Normal School	29.92	759.9	30.11	764.9	90.7	32.6	28	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.75	755.7	80.8	27.1	46	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.77	578.2	.....	.....	64.4	18.0	.....	SSW	.....	.....	5	.....	5	.....	.....	0	0	Fair	Genti de Nansouty.
Perpignan	29.97	761.2	30.07	763.8	77.4	25.2	65	SE	13.0	5.8	.....	.....	1	NW	.....	0	0	Hazy	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.34	643.5	.....	.....	66.2	19.0	57	S	.....	.....	1	.....	2	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.87	758.6	29.90	759.4	86.0	30.0	45	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.93	760.1	30.01	762.2	79.7	26.5	54	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.88	759.0	29.91	759 8	82 6	28.1	50	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.87	758.6	30.03	762.8	81.0	27.2	45	ESE	.....	.....	2-3	.....	1	.....	SW	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	29.91	759.4	29.91	759.8	90.5	32.5	57	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.27	743.5	29.98	761.8	82.8	28.2	60	SSE	.....	.....	5	.....	2	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.74	755.3	29.93	760.3	83.8	28.8	42	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.54	750.2	30.03	762.7	79.5	26.4	40	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S	29.34	745.1	30.01	762.2	84.9	29.4	65	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.71	18.	.....	L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.43	747.5	30.02	762.4	83.8	28.8	33	SSW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Ch. André, Director.
Nice	.....	.....	30.18	766.5	80.2	26.8	45	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.06	753.4	29.09	754.0	78.1	25.6	93	E	6.9	3.1	.....	c; hz	5k	NE	SE	0	0	⅛ covered	Marc Dechevrens.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,012.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.. Pic du Midi, (Summit 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.32	744.6	30.16	766.1	74.7	23.7	52	E	.....	.....	4	.....	4	E	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	30.02	762.6	30.19	766.8	71.2	21.8	73	NW	.....	.....	1	.....	9	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.66	753.4	30.20	767.0	68.9	20.5	59	WNW	.....	.....	2	.....	9	.....	.....	0	0	.....	Royal University Observ'y.
Carlsruhe	29.70	754.4	30.11	764.9	75.9	24.4	57	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Albert Sens.
Cassel	29.64	752.8	30.25	768.3	72.7	22.6	63	NNE	.....	.....	2	.....	7	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.99	761.8	30.15	765.9	76.6	24.8	57	SE	.....	.....	2	.....	5k	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.11	764.7	70.5	21.4	82	SW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.82	757.4	30.19	766.7	75.4	24.1	.....	ENE	.....	.....	1	.....	3	.....	.....	0	C	.....	Physical Society.
Freienwalde on the Oder	30.13	765.2	30.17	766.2	68.5	20.3	79	W	.....	.....	1	.....	7ks	W	.....	0.004	0.1	.....	Dr. Assmann.
Friedrichshafen	28.70	729.0	30.08	763.9	75.4	24.1	49	ESE	.....	.....	4	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	30.09	764.2	30.15	765.9	73.4	23.1	78	WSW	.....	.....	4	.....	5k	.....	.....	0.055	1.4	Fair.	Captain F. Hegemann
Kiel	30.10	764.6	30.12	765.0	72.3	22.4	63	WSW	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.98	761.5	30.07	763.6	65.8	18.8	56	W	.....	.....	5	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.08	764.1	64.6	18.1	.....	W	.....	.....	2	.....	2	.....	.....	0.043	1.1	.....	H. Müller.
Leipsic Observatory	29.80	757.0	30.22	767.5	70.7	21.5	64	NW	.....	.....	2	.....	10	WNW	.....	0	0	.....	Prof. Bruhns, Privy Counsellor.
Memel	29.96	761.0	30.01	762.2	61.7	16.5	77	SW	.....	.....	5	.....	10n	.....	.....	.....	.....	.....	Skulweit.
Munich (München)	28.37	720.6	30.24	768.2	70.3	21.3	50	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Dr. C. Lang.
Neufahrwasser	30.08	763.9	30.09	764.3	68.7	20.4	54	W	.....	.....	3	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.87	758.6	30.15	765.8	68.5	20.3	56	WNW	.....	.....	2	.....	9	.....	.....	0.039	1.0	.....	Dr. Magener.
Strassburg (in Alsace)	29.59	751.6	30.12	765.1	76.8	24.9	50	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.19	741.3	30.09	764.2	76.1	24.5	45	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Fiesch.
Weissenburg (Bavaria)	28.66	727.9	30.11	764.9	71.4	21.9	49	Calm	0	0	.....	.....	3k	.....	S	0	0	.....	T. Hopfner.
Wustrow	30.09	764.2	30.11	764.8	64.8	18.2	86	SW	.....	.....	3	.....	10s	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.89	759.1	86.9	30.5	.....	NE	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.3	29.59	751.6	82.7	28.2	67	WSW	20.0	8.9	.....	.....	8	WNW	WSW	0	0	D. clouds	
Deesa	29.08	738.6	29.54	750.2	96.3	35.7	41	WSW	8.7	3.9	.....	.....	4	E	.....	0	0	D. clouds	
Bombay	29.57	751.0	29.61	752.0	83.3	28.5	84	SW	8.0	3.6	.....	.....	9	.....	W	0.11	2.8	D. clouds	
Poona	27.76	705.2	29.60	751.7	80.5	26.9	73	W	.....	.....	.....	.....	8	N	W	0	0	Threatening	
Lahore	28.71	729.2	29.41	747.1	102.3	39.1	37	N	2.5	1.1	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.13	689.1	29.68	753.9	70.7	21.5	93	W	10.0	4.5	.....	.....	10	.....	W	0.01	0.3	Threatening	
Roorkee	28.56	725.3	29.42	747.3	92.8	33.8	69	Calm	0.3	0.1	.....	.....	8	.....	.....	0	0	.....	
Agra	28.90	734.1	29.45	747.9	95.6	35.3	56	E	.....	.....	.....	.....	4	.....	E	0	0	.....	
Nagpur	28.50	723.9	29.53	750.0	82.5	28.1	77	S	3.4	1.5	.....	.....	7	.....	SE	0.54	13.7	D. clouds	
Lucknow	29.12	739.5	29.48	748.8	90.2	32.3	95	Calm	0.5	0.2	.....	.....	5	SE	.....	0	0	D. clouds	
Allahabad	29.17	740.9	29.48	748.7	89.1	31.7	82	Calm	1.3	0.6	.....	.....	10	.....	.....	0	0	Overcast	
Patna	29.29	744.0	29.47	748.5	88.0	31.1	80	SSW	0.5	0.2	.....	.....	8	SW	SW	0	0	D. clouds	
Hazaribagh	27.53	699.3	29.52	749.7	79.8	26.6	79	NW	4.5	2.0	.....	.....	10	.....	.....	0.03	0.8	Thunder-storm	
Cuttack	29.44	747.8	29.52	749.8	88.1	31.2	71	SSW	1.0	0.4	.....	.....	7	.....	.....	0	0	D. clouds	
Calcutta (Alipore)	29.47	748.5	29.49	749.0	86.9	30.5	76	SSW	5.0	2.2	.....	.....	8	S	.....	0	0	D. clouds	
Goalpara	29.09	738.8	29.47	748.5	88.1	31.2	73	Calm	0.7	0.3	.....	.....	3	E	.....	0	0	D. clouds	
Chittagong	29.45	748.0	29.54	750.3	83.8	28.8	91	Calm	2.3	1.0	.....	.....	4	.....	.....	0	0	Misty	
Sibsagar	29.21	742.0	29.58	751.4	87.0	30.6	73	W	2.3	1.0	.....	.....	8	.....	.....	0	0	D. clouds	
Jubbulpore	28.18	715.7	29.52	749.9	82.3	27.9	77	Calm	1.0	0.4	.....	.....	6	.....	N	0	0	D. cloud	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.78	756.5	30.18	766.6	76.6	24.8	39	SW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.65	753.2	30.15	765.9	82 6	28.1	80	ESE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.06	763.4	30.16	766.1	79.3	26.3	35	SSE	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.24	742.7	30.11	764 8	79.9	26.6	29	NW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.04	761.0	30.15	765.7	78 4	25.8	48	W	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.28	718.2	30.11	764.7	76.5	24.7	36	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.12	765.1	30.17	766.3	74.7	23.7	48	NE	13.7	6'1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.87	758.8	30.13	765.2	83.3	28.5	27	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.03	762.8	30.11	764.9	77.4	25.2	57	NNW	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.90	759.4	30.07	763.7	83.7	28.7	31	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.76	755.9	30.00	762.1	77.6	25.0	31	NE	21.7	9.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.14	740.2	29.98	761.5	84.9	29.4	59	NNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.89	759.3	30.08	764.0	78.6	25 9	57	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.7	30.04	762.9	77.9	25.5	68	ENE	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.91	759.8	29.98	761.6	84.6	29.2	53	SSE	8.7	3.9	.....	.....	1	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.2	30.09	764.3	81.1	27.3	30	NE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	78.0	25.6	86	SW	1.2	0.5	.....	.....	8cs;ck	.....	.....	0.022	0.56	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.64	752.8	29.83	757.7	79 8	26.6	76	SE	2.8	1.3	.....	.....	9cs	.....	.....	0.005	0.13	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.87	758.7	29.94	760.5	77.3	25 2	81	SE	4.6	2.1	.....	.....	7s;cs	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.84	757.9	29.89	759 2	77.1	25.1	80	ENE	3.5	1.6	.....	.....	10s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	636.1	30.05	763.3	67.6	14.2	70	E	.....	.....	2	.....	8	.....	E	0	0	Cloudy	Prof. L. Perez.
Leon	24.43	620.4	30.03	762.8	65.1	18.4	69	E	.....	.....	3	1c	2k	SE	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.05	763.2	55 9	13.3	81	NW	3.1	1.4	.....	10k	0	.....	NE	0.15	3.9	Covered	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	64 8	18.2	64	NE	.....	.....	2	1c	8ks	E	E	0	0	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.89	759.1	29.99	759.4	75.2	24.0	96	W	.....	.....	1	.....	10	.....	Calm	3.17	80.5	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.11	764.9	63.0	17.2	80	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.58	573 6	30.15	765.7	57.4	14.1	78	E	.....	.....	4	8ck	0	SE	.....	0.11	18 0	Rainy	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.3	30.16	766.1	59 0	15.0	83	NW	5.4	2 4	.....	.....	10k	.....	SE	0.67	16.9	Covered	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.64	752.9	29.93	760.2	75.6	24.2	99	NE	.....	.....	2	5c	2k	.....	NE	0.32	8.0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,550.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.13	765.3	30.13	765.3	74.8	23.8	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.10	764.5	30.15	765.9	72.1	22.3	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.13	765.2	30.13	765.2	67.5	19.7	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.13	765.4	30.13	765.4	74.1	23.4	65	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.11	764.9	30.16	766.4	74.3	23.5	61	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.93	760.1	29.98	761.5	66.2	19.0	69	S	12.8	5.7	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.98	761.5	30.02	762.5	57.2	14.0	78	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.84	757.9	29.98	761.5	70.5	21.4	65	NW	4	2	.....	.....	9	.....	.....	0.012	0.3	.....	
Tromsö	29.93	760.1	29.97	761.2	72.3	22.4	55	W	4	2	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.93	760.1	30.11	764.8	74.5	23.6	85	E	1.8	0.8	.....	.....	6	.....	.....	0.335	8.5	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.5	30.04	763.1	85.6	29.8	22	W	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.3	30.14	765.5	72.5	22.5	66	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.5	30.13	765.4	72.0	22.2	52	N	16.1	7.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.10	764.5	30.17	766.3	74.8	23.8	85	SW	14.3	6.4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from —		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J.C. M. Cabrate, 1st Lt
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa				
St. Vincent, Cape Verd Island			D. Clouds, 4 hr's rain.]	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello				H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			Raining. 2 hr's rain.]	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.67	753.7	30.08	764.1	66.6	19.2	61	NW	7	3	.....	.....	6ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.62	752.4	30.03	762.7	67.1	19.5	64	NW	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.77	756.2	30.01	762.2	63.3	17.4	76	SSW	4	2	.....	.....	10n;ka	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.94	760.4	29.95	760.8	68.2	20.1	83	NE	4	2	.....	.....	9n;ka	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.21	741.8	29.80	757.0	77.2	25.1	62	N	7	3	.....	.....	10cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.75	755.6	29.82	757.4	82.9	28.3	46	SW	9	4	.....	.....	6cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.79	756.7	29.81	757.2	81.7	27.6	57	NE	4	2	.....	.....	1	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.45	747.9	29.97	761.3	70.7	21.5	55	NW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.60	751.9	29.80	756.8	88.0	31.1	29	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.13	765.4	30.15	765.9	55.6	13.1	69	NNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.39	721.1	29.70	754.4	93.0	33.9	31	NW	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	28.39	759.1	29.80	757.0	86.7	30.4	37	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.30	744.3	29.75	755.6	73.8	23.2	54	N	13	6	.....	.....	8k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750.2	29.80	756.8	64.9	18.3	75	NW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.62	726.9	29.54	750.3	63.7	17.6	81	N	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.6	29.73	755.2	90.9	32.7	42	NNW	7	3	.....	.....	1kc	.....	.....	.....	.....	.....	
Tashkend	28.15	714.9	29.59	751.5	92.5	33.5	42	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.12	739.7	29.59	751.5	80.6	27 0	54	SE	0	0	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.52	749.9	29.80	756.9	77.9	25.5	64	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining.....	Physical Observatory
Peking (China)	29.35	745.6	29.50	749.2	71.1	21.7	93	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light fog.....	
Vladivostock	29.65	753.0	29.74	755.5	65.8	18.8	96	SE	7	3	.....	.....	10n	.....	.....	.....	.....	Raining.....	
Nikolaievsk, on the Amoor	29.75	755.7	29.84	757.9	62.8	17.1	92	NE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	82.0	27.8	57	S	3.5	1.58	.....	.....	0	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.95	760.8	29.97	761.2	81.3	27.4	57	N	3.6	1.62	.....	0	0	.....	.....	0	0	Clear.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.5	.....	.....	82.4	28.0	35	S	6.7	3.00	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4	29.92	759.9	92.8	33.8	22	S.	17.2	7.67	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.91	759.7	30.05	763.3	91.0	32.8	44	ENE	5.0	2.22	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.5	30.08	764.0	63.7	17.6	83	SW	6.3	2.8	.....	.....	10	.....	.....	0	0	Covered.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.6	30.01	762.2	81.1	27.3	77	E	4.7	2.1	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.71	754.6	29.77	756 0	86.9	29.9	77	NW	12.8	5.7	.....	2c	2ck	W	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.5	30.08	763.9	79.3	26.5	67	WSW	10.3	4.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.8	29.97	761.1	84.2	29.0	71	SE	9.8	4.40	.....	4k	4k	SE	SE	0.059	1.50	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid, 655.5 m, or 2,150.6ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.10	764.4	30.13	765.4	65.8	18.8	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.83	757.7	29.88	759.0	69.1	20.6	54	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.97	761.2	30.02	762 5	70.9	21.6	67	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.80	757.0	29.98	761.5	62.2	16.8	90	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.84	758.0	29.90	759.5	63.7	17.6	76	NNE	.....	.....	6	.....	3	.....	.....	0.016	0.4	.....	
Sub-Series.																			
Upsala	29.91	759.6	29.99	761.8	66.2	19.0	74	ENE	7.8	3.5	.....	.....	9	.....	ENE	0.075	1.90	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 52° 41', E. 2° 50'	.....	.....	30.18	766.5	60.8	16.0	.....	SSW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.78	729.6	30.10	764.6	70.2	21.2	59	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.52	724.5	30.09	764.3	75.4	24.1	52	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +1.8 mm.; Thermometer, −1.4 Cent.; Relative Humidity, +6 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	760.0	75.7	24.3	46	N	13	6.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.1	78.6	25.9	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.58	751.3	29.69	754.2	88.9	31.6	70	NW	.....	.....	1	.....	2s	.....	NW	0	0	D. clouds.....	Prof. C.V. A.Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.86	758.4	29.92	760.0	63	17.2	89	S	5	2.2	.....	8k	2ks	S	S	0.09	2.3	Fair.....	G A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	63	17.2	82	S	11	4.9	.....	.....	8s	.....	SW	0	0	Cloudy . ..	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.82	757.4	71.0	21.7	76	W	.....	.....	3	.....	4s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.63	752.6	.....	.....	.....	.....	.....	E	.....	.....	1	.....	10s	.....	.....	0	0	Overcast....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.76	755.9	29.78	756.4	51	10.6	93	W	4	1.8	.....	.....	10s	.....	W	t.	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.91	759.7	29.97	761.2	60.0	15.6	89	S	3	1.3	.....	.....	10n	.....	.....	0	0	Misty.....	Prof. Harrison.
*Fort Garry, Manitoba	29.09	738.9	29.90	759.4	56	13.3	94	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.83	732.3	29.59	759.2	67	19.4	95	Calm	.....	.....	0	1cs	0	.....	.....	0.19	4.8	Foggy	James Grant.
*Halifax, N. S	29.95	760.7	30.06	763.5	63	17.2	88	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.56	750.8	29.91	759.7	78.2	25.7	.....	W	.....	.....	2	2ck	0	W	.....	0.36	9.1	Fine.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.58	751.3	29.90	759.4	70	21.1	86	SW	6	2.7	.....	2c	0	SW	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	67.0	19.4	75	W	4	1.8	.....	2k	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.64	752.8	29.83	757.7	69	20.6	81	SW	10	4.5	.....	0	5ks	.....	W	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.91	759.7	65	18.3	73	W	6	2.7	.....	2ck	0	SW	.....	Inap.	Inap.	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.88	758.9	70.7	21.5	82	W	.....	.....	3	4k	0	.....	.....	0	0	Fair.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.90	759.4	69	20.6	95	SW	8	3.6	.....	8ck	0	W	.....	0.03	0.8	Fair.....	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.01	762.2	60.5	15.8	.....	SW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.90	759.4	70	21.1	92	W	4	1.8	.....	5k	5n	W	W	0.33	8.4	Threatening	M. Payne.
*Quebec, Quebec	29.51	749.5	29.82	757.4	64	17.8	88	W	.....	.....	1	.....	10n	.....	W	0	0	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.41	747.0	29.85	758.2	64	17.8	81	W	5	2.2	.....	0	8ks	.....	W	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.96	761.0	55	12.8	96	SE	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Dr. Gové.
St. John, N. B	29.82	757.4	29.98	761.5	60	15.6	85	S	7	3.1	.....	.....	10ks	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	29.22	742.2	29.91	759.7	64	17.8	80	N	5	2.2	.....	0	0	.....	.....	0.52	13.2	Clear.....	K Stewart.
Stayner, Ontario	29.14	740.1	29.89	759.2	68	20.0	51	N	8	3.6	.....	5ck	0	NW	.....	0.21	5.3	Fair	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.7	30.07	763.8	64	17.8	69	S	3	1.3	.....	2c	0	.....	.....	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.55	750.6	29.92	760.0	70	21.1	82	W	1	0.4	.....	.....	8ks	.....	W	Inap.	Inap.	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.98	761.5	30.01	762.2	63.0	17.2	89	S	4	1.8	.....	.....	10kc	.....	.....	.....	.....	Raining.....	Prof. John E. Oram.
Woodstock	28.87	733.3	29.89	759.2	70.0	21.1	82	W	5	2.2	.....	0	9ks	.....	W	0	0	Cloudy.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	30.00	762.0	51.0	10.6	93	NE	.....	.....	.....	.....	10	.....	.....	0.10	2.5	Overcast.....	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.73	755.1	29.95	760.7	73	22.8	76	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.29	744.0	29.91	759.7	64	17.8	68	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	48	8.9	100	Calm	0	0	.....	.....	10n	.....	Calm	0.46	11.7	Cloudy	
Atlanta, Georgia	28.88	733.5	29.97	761.2	74	23.3	90	W	5	2.2	.....	2k	8s	Calm	Calm	0.14	3.6	Cloudy	
Atlantic City, New Jersey	29.98	761.5	30.00	762.0	73	22.8	95	SW	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Augusta, Georgia	29.85	758.2	30.04	763.0	79	26.1	78	SW	2	0.9	.....	2k	2s	S	NW	Inap.	Inap.	Fair	
Baltimore, Maryland	29.97	761.2	30.02	762.5	76	24.4	90	N	5	2.2	.....	2c	2s	NW	NW	0	0	Fair	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	74	23.3	86	NW	4	1.8	.....	2k	8s	Calm	Calm	Inap.	Inap.	Cloudy	
Bismarck, Dakota	28.20	716.3	30.06	763.5	60	15.6	82	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.58	725.9	29.83	757.7	76	24.4	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.07	687.6	30.03	762.7	64	17.8	39	E	1	0.4	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.81	757.2	29.96	761.0	74.5	23.6	72	Calm	0	0	.....	1k	Haze	SW	Calm	0	0	Hazy	
Brackettville, Texas	28.87	733.3	29.86	758.4	77	25.0	57	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.96	735.6	29.94	760.5	57	13.9	87	SE	3	1.3	.....	2k	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.90	759.4	29.94	760.5	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.23	742.4	29.89	759.2	72	22.2	71	SW	8	3.6	.....	5cs	Haze	W	Calm	Inap.	Inap	Fair	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	48	S	.....	.....	1	0	5s	.....	E	0	0	Fair	
Burlington, Vermont	29.60	751.8	29.85	758.9	74	23.3	72	S	7	3.1	.....	2ck	0	W	.....	Inap	Inap	Fair	
Cairo, Illinois	29.67	753.6	30.04	763.0	76	24.4	86	W	1	0.4	.....	2ck	2s	W	N	0.02	0.5	Fair	
Campo, California	27.36	694.9	29.93	760.2	61	16.1	71	Calm	0	0	.....	2c	0	SE	.....	Inap.	Inap.	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	79	26.1	87	W	15	6.7	.....	1ucs	0	W	.....	0.33	8.4	Cloudy	
Cape Henry, Virginia	30.00	762.0	30.02	762.5	75	23.9	90	SW	2	0.9	.....	.....	10s	.....	SW	1.46	37.1	Cloudy	
Cape Lookout, N. Carolina	30.05	763.3	30.06	763.5	77	25.0	86	SW	22	9.8	.....	.....	8n	.....	SW	0.10	2.5	Light rain	
Cape May, New Jersey	29.97	761.2	29.99	761.7	73	22.8	90	W	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Castroville, Texas	29.23	742.4	29.91	759.7	80	26.7	74	SW	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.00	762.0	30.05	763.3	82	27.8	79	W	5	2.2	.....	5c	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.18	741.1	29.96	761.0	74	23.3	90	SW	2	0.9	.....	.....	10n;fg	.....	Calm	0.02	0.5	Light rain	
Chattanooga, Tennessee	29.24	742.7	30.02	762.5	69	20.6	90	N	2	0.9	.....	.....	10n	.....	SW	0.66	16.8	Light rain	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	52	11.1	79	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.28	743.7	29.94	760.5	68	20.0	74	NW	3	1.3	.....	5c	Haze	W	.....	Inap.	Inap.	Fair	
Cincinnati, Ohio	29.38	746.2	30.00	762.0	73	22.8	67	Calm	0	0	.....	1k	Sm'e	Calm	SW	0	0	Clear	
Cleveland, Ohio	29.24	742.7	29.93	760.2	72	22.2	71	S	8	3.6	.....	5cs	Haze	S	Calm	Inap.	Inap.	Fair	
Coleman City, Texas	28.21	716.5	29.80	756.9	75	23.9	68	NE	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	
Columbus, Ohio	29.16	740.7	29.95	760.7	77	25.0	61	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.13	714.5	29.73	755.1	75	23.9	68	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.55	750.6	29.99	761.7	82	27.8	63	E	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.39	746.5	30.01	762.2	62	16.7	77	N	14	6.3	.....	1c	0	W	.....	0.30	7.6	Clear	
Deadwood, Dakota	25.52	648.2	.....	.....	58	14.4	76	S	1	0.4	.....	0	0	.....	.....	0.10	2.5	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.21	741.9	29.96	761.0	75	23.9	90	SE	4	1.8	.....	5k	0	NE	.....	Inap.	Inap.	Fair	
Denver, Colorado	24.92	633.0	30.14	765.5	60	15.6	60	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.21	741.9	30.07	763.8	60	15.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.24	742.7	29.88	758.9	69	20.6	80	SW	4	1.8	.....	8k	2s	W	Calm	0.19	4.8	Cloudy	
Dodge City, Kansas	27.51	698.7	29.72	754.9	68	20.0	74	NW	8	3.6	.....	5c	0	NW	.....	0	0	Fair	
Dubuque, Iowa	29.34	745.2	30.02	762.5	62	16.7	72	W	2	0.9	.....	Haze	Haze	Calm	Calm	0.47	11.9	Hazy	
Duluth, Minnesota	29.31	744.5	29.97	761.2	60	15.6	65	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.20	741.7	29.90	759.4	81	27.2	67	SE	4	1.8	.....	1c	0	Calm	.....	0	0	Clear	
Eastport, Maine	29.90	759.4	29.97	761.2	57	13.9	94	S	8	3.6	.....	.....	Fog	.....	S	0	0	Dense fog	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.27	667.2	.....	.....	71	21.7	80	NW	2	0.9	.....	2c	2s	NW	NW	Inap.	Inap.	Fair	
Erie, Pennsylvania	29.24	742.7	29.91	759.7	75	23.9	64	SW	3	1.3	.....	8c	Haze	W	Calm	0	0	Fair	
Escanaba, Michigan	29.31	744.5	29.95	760.7	61	16.1	71	NW	2	0.9	.....	9	0	.....	.....	0.21	5.3	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	82	27.8	60	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.98	710.7	.....	.....	58	14.4	87	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	68	20.0	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.98	761.5	77	25.0	82	Calm	0	0	.....	1c	0	Calm	.....	Inap	Inap	Clear	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	70	21.1	75	S	4	1.8	.....	5k	0	Calm	.....	0.24	6.1	Fair	
Fort Griffin, Texas	28.78	731.0	30.00	762.0	76	24.4	86	S	2	0.9	.....	0	0	.....	.....	0.25	6.3	Clear	
Fort Keogh, Montana	27.44	697.0	.....	.....	60	15.6	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.79	705.9	29.60	751.8	80	26.7	51	S	4	1.8	.....	0	8s	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.81	731.8	29.87	758.7	74	23.3	81	NE	4	1.8	.....	5cs	0	Calm	.....	0.32	8.1	Fair	
Fort Stevenson, Dakota	28.17	715.5	.....	.....	58	14.4	87	Calm	0	0	.....	1c	Haze	NW	.....	0	0	Hazy	
Fort Verde, Arizona	.....	.....	.....	.....	75	23.9	56	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.75	755.6	80	26.7	59	S	3	1.3	.....	8cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	83	28.3	79	S	5	2.2	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	28.93	734.8	29.94	760.5	76	24.4	95	Calm	0	0	.....	0	5ks	.....	NW	0.06	1.5	Fair	
Grand Haven, Michigan	29.27	743.4	29.89	759.2	70	21.1	85	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.06	738.1	29.96	761.0	74	23.3	86	NE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.22	742.2	29.97	761.2	72	22.2	71	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.98	761.5	30.01	762.2	85	29.4	79	SE	5	2.2	.....	1c	1ks	Calm	SE	0	0	Clear	
Jacksboro, Texas	28.84	732.5	29.94	760.5	80	26.7	70	S	2	0.9	.....	0	0	W	.....	0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.08	764.0	83	28.3	79	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.38	746.2	29.97	761.2	67	19.4	74	N	6	2.7	.....	1c	0	Calm	.....	0.22	5.6	Clear	
Key West, Florida	30.00	762.0	30.03	762.7	82	27.8	67	SE	6	2.7	.....	2k	0	SE	.....	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.95	760.7	29.98	761.5	77	25.0	100	SW	12	5.4	.....	.....	10n	.....	SW	2.17	55.1	Light rain	
Knoxville, Tennessee	29.06	738.1	30.03	762.7	69	20.6	88	W	2	0.9	.....	.....	10n	.....	SW	0.15	3.8	Heavy rain	
La Crosse, Wisconsin	29.29	744.0	30.01	762.2	62	16.7	72	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	67	19.4	79	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Laredo, Texas	29.54	750.3	29.89	758.4	85	29.4	47	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.22	742.2	30.03	762.7	68	20.0	84	N	3	1.3	.....	4ck	0	W	.....	0	0	Fair	
Little Rock, Arkansas	29.69	754.1	30.03	762.7	74	23.3	95	Calm	0	0	.....	0	8s	.....	W	1.13	28.7	Cloudy	
Los Angeles, California	29.55	750.6	29.88	758.9	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.47	748.5	30.00	762.0	73	22.8	76	S	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.36	745.7	30.01	762.2	75	23.9	76	Calm	0	0	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Madison, Wisconsin	29.01	736.8	29.97	761.2	62	16.7	72	NW	8	3.6	.....	0	0	.....	.....	1.01	25.7	Clear	
Marquette, Michigan	29.22	742.2	29.90	759.4	62	16.7	67	W	12	5.4	.....	0	0	.....	.....	0.08	2.0	Clear	
Mason, Texas	28.40	721.3	30.07	763.8	81	27.2	55	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.68	753.9	30.01	762.2	75	23.9	95	NW	1	0.4	.....	5ck	5ks	W	NW	0.97	24.6	Cloudy	
Milwaukee, Wisconsin	29.24	742.7	29.95	760.7	64	17.8	78	NW	10	4.5	.....	0	4s	.....	Calm	0.15	3.8	Clear	
Mobile, Alabama	29.99	761.7	30.04	763.0	79	26.1	91	W	1	0.4	.....	2c	2ks	Calm	W	Inap.	Inap.	Fair	
Montgomery, Alabama	29.81	757.2	30.04	763.0	77	25.0	90	SW	4	1.8	.....	2k	5ks	SW	SW	Inap.	Inap.	Fair	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.05	737.9	30.00	762.0	70	21.1	80	Calm	0	0	.....	2k	0	SW	.....	0.12	3.0	Fair	
Mt. Washington, N. H.	23.89	606.8	30.25	768.3	50	10.0	93	W	18	8.0	.....	.....	Fog	.....	W	0	0	Foggy	
Nashville, Tennessee	29.53	750.0	30.05	763.3	71	21.7	90	NW	1	0.4	.....	.....	10ks	.....	W	0.13	3.3	Cloudy	
New Haven, Connecticut	29.85	758.2	29.96	761.0	75	23.9	86	S	1	0.4	.....	Haze	8s;Hz	Calm	Calm	0.03	0.8	Cloudy	
New London, Connecticut	29.91	759.7	29.96	761 0	73	22.8	90	SW	3	1.3	.....	.....	10s;fg	.....	Calm	0.02	0.5	Cloudy	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	82	27.8	75	SW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.93	760.2	29.97	761.2	72	22.2	95	SW	2	0.9	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	
New York, New York	29.80	756.9	29.97	761.2	76	24.4	69	NW	3	1.3	.....	1c	Haze	Calm	Calm	0.01	0.3	Hazy	
Norfolk, Virginia	29.97	761.2	30.03	762.7	76	24.4	95	SW	5	2.2	.....	.....	10s	.....	SW	0.82	20.8	Cloudy	
North Platte, Nebraska	27.23	691.6	29.77	756.1	57	13.9	97	E	2	0.9	.....	.....	Fog	.....	Calm	0.26	6.6	Foggy	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	50.0	10.0	93	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.96	735.6	30.03	762.7	63	17.2	83	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.62	752.8	29.92	760.0	71	21.7	75	SW	4	1.8	.....	8c	0	W	.....	0.34	8.6	Fair	
Pembina, Dakota	29.04	737.6	29.86	758.4	52	11.1	93	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.94	760.5	29.99	761.7	78	22.8	72	NW	7	3.1	.....	.....	10s;fg	.....	Calm	Inap.	Inap	Cloudy	
Phœnix, Arizona	28.66	728.0	30.34	770.6	86	30.0	51	SE	2	0.9	.....	2cs	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.12	460.2	30.33	770.4	39	3.9	73	NE	13	5.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Pilot Point, Texas	29.08	738.6	29.88	758.9	85	29.4	79	SE	7	3.1	.....	5k	0	S	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	64	17.8	48	NW	3	1.3	.....	0	5s	.....	SW	0.02	0.5	Fair	
Pittsburg, Pennsylvania	29.21	741.9	29.98	761.5	69	20.6	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.25	742.9	29.88	758.9	68	20.0	84	SW	2	0.9	.....	10ck	0	SW	.....	0	0	Cloudy	
Portland, Maine	29.90	759.4	29.95	760.7	60	15.6	88	Calm	0	0	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.99	761.7	30.06	763.5	56.0	13.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.82	630.4	30.18	766.6	64	17.8	78	NE	1	0.4	.....	2c	2ks	Calm	Calm	0.28	7.1	Fair	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	80	26.7	82	NE	8	3.6	.....	0	0	.....	.....	0.84	21.3	Clear	
Red Bluff, California	29.50	749.3	29.84	757.9	72	22.2	42	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	81	27.2	74	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.23	742.4	29.91	759.7	70	21.1	66	SW	3	1.3	.....	2c	Sm'e	SW	.....	0	0	Clear	
Roseburg, Oregon	29.47	748.5	30.04	763.0	55	12.8	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.75	755.6	29.84	757.9	62	16.7	77	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.02	762.5	72	22.2	76	S	4	1.8	.....	1ck	0	Calm	.....	0	0	Clear	
St. Marks, Florida	30.07	763.8	30.08	764.0	76	24.4	95	E	5	2.2	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
St. Paul, Minnesota	29.16	741.1	29.99	761.7	59	15.0	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	69	20.6	35	SE	6	2.7	.....	4k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.33	745.0	29.88	758.9	81	27.2	74	SE	2	0.9	.....	.....	8s	.....	SE	0	0	Cloudy	
San Diego, California	29.84	757.9	29.91	759.7	64	17.8	94	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.26	743.7	29.92	760.0	72	22.2	67	SW	9	4.0	.....	5c	Haze	W	Calm	0	0	Fair	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	84	28.9	57	W	12	5.4	.....	0	Haze	.....	Calm	Inap	Inap.	Clear	
San Francisco, California	29.85	758.2	29.91	759.7	55	12.8	93	W	6	2.7	.....	.....	Fog	.....	W	0	0	Dense fog	
Santa Fé, New Mexico	23.47	596.1	30.01	762.2	58	14.4	64	NE	6	2.7	.....	0	0	.....	.....	Inap	Inap.	Clear	
Savannah, Georgia	29.98	761.5	30.07	763.8	85	29.4	68	SW	8	3.6	.....	2ck	Haze	SW	Calm	0.06	1.5	Fair	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	74	23.3	90	W	4	1.8	.....	.....	10n	.....	NW	1.42	36.1	Light rain	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.07	763.8	30.10	764.5	75	23.9	100	W	5	3.6	.....	.....	10n	.....	SW	0.36	9.1	Heavy rain	
Socorro, New Mexico	25.61	647.9	29.58	751.3	68	20.0	79	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Springfield, Ill	29.36	745 7	30.02	762.5	67	19.4	79	NW	1	0.4	.....	.....	10s	.....	W	0.10	2.5	Cloudy	
Springfield, Massachusetts	29.83	757.7	29.96	761.0	71	21.7	95	S	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	29.94	684.3	29.94	760.5	76	24.4	2	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.91	759.7	29.96	761.0	62	16.7	100	N	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
Toledo, Ohio,	29.25	742.9	29.90	759.4	73	22.8	67	SW	8	3 6	.....	8c	0	.....	.....	0	0	Fair	
Tucson, Arizona	27.47	697.7	30.02	762.5	83	28.3	56	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.51	749.5	29.98	761.5	72.0	22.2	54	NE	2	0.9	.....	2ck	0	NW	.....	0	0	Fair	
Uvalde, Texas	29.07	738.4	29.85	758.2	80	26.7	70	NE	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Vicksburg, Mississippi	29.78	756.4	30.03	762.7	75	23.9	90	S	3	1.3	.....	.....	10s	.....	S	0.98	24.9	Cloudy	
Virginia City, Montana	24.37	619.0	29.85	758.2	58	14.4	32	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.45	748.0	29.81	757.2	65	18.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.90	759.4	30.01	762.2	75	23.9	68	NW	3	1.3	.....	.....	10ks;hs	.....	W	Inap	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	77	25.0	31	S	.....	.....	1	5k	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.99	761.7	30.07	763.8	75	23.9	90	Calm	0	0	.....	.....	10n	.....	W	0.33	8.4	Light rain	
Winnemucca, Nevada	26.66	651.8	30.02	762.5	63	17.2	28	SW	5	2.2	.....	0	4s	.....	SW	0	0	Fair	
Wood's Holl, Mass.	29.93	760.2	29.97	761.2	72	22.2	95	W	10	4.5	.....	.....	Fog	.....	Calm	0.05	1.3	Dense fog	
Yankton, Dakota	28.84	732.5	30.11	764.8	57	13.9	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.64	752.8	29.80	756.9	81	27.2	78	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.96	761.0	30.01	762.2	83	28.3	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.19	639.8	.....	.....	67.0	19.4	78	Calm	.....	.....	0	7cs;k	2ks	.....	.....	0.69	15.0	.....	Thomas Herran.
Navassa, W. I.	29.83	757.7	29.91	759.7	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	82	E	.....	.....	2	1c	5k	E	.....	0.13	3.30	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.3 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡			82	27.8	91	NW	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡			77	25.0	88	Calm			0		4k;ck		SW	0.28	7.1			Fair	
Adams, Mare I'd., Navy Yard, Cal.	29.85‡	758.2‡			69	15.0	100	SSW			3		10		SSW					Cloudy.	
Alliance, Copenhagen, Denmark	30.07‡	763.8‡			63	17.2	94	SW			0		10		SSE					D. clouds	
Ashuelot, Yokohama, Japan	29.96‡	761.0‡			79	26.1	86	WSW			1		8		NW			Smooth		Cloudy	
Colorado, New York, N. Y.	29.91‡	759.7‡			75	23.9	72	W	2	0.9			0			0	0			Hazy	
Constellation, Off Boston Harbor, Mass	29.95‡	760.7‡			60	15.6	94	Calm			0		0			Light	Light			Hazy	
Constitution, Navy Yard, Brooklyn, N.Y.	29.98‡	761.5‡			77	25.0	73	SW			1		2		Calm					Clear	
Enterprise, Cronstadt, Russia	29.97‡	761.2‡			65	18.3	94	ENE			2		10		E	Blank	Blank			Cloudy	
Essex, Buenos Ayres, Argentine Rep., S. A.	30.01‡	762.2‡			53	11.7	93	ESE			4		2					Smooth		Fair	
Franklin, Norfolk, Va.	30.00‡	762.0‡			76	24.4	95	WSW	4.8	2.1			10		WNW	0.85	21.6			Cloudy	
Hartford S. 29° 05′, W. 42° 06′	30.09‡	764.3‡			72	22.2	71	NNW			5		2		NNW	0	0	Smooth		Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡			63	17.2	83	SW	6	2.7			6?		SW					Cloudy?	
Kearsarge, N. 47° 05′, W. 62° 00′	29.97‡	761.2‡			57	13.9	87	W			2		1		W					Clear	
Michigan, Chicago, Ill.	29.90‡	759.4‡			67.5	19.7	82	W			2		2							Clear	
Monocacy, Shanghai, China	29.68‡	753.9‡			82	27.8	87	ESE			2		2		ESE					Fair	
Monongahela, Yokohama, Japan	29.94‡	760.5‡			80	26.7	96	SW			0–1		ck			Light	Light			D. clouds	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			82	27.8	83	SW	28	12.5			5		SW	0	0			Fair	
Onward, Callao, Peru.	29.97‡	761.2‡			62	16.7	83	SE			1		10					Long	W	Cloudy	
Palos, Shanghai, China	29.77‡	756.4‡			80	26.7	91	SE			2		5		SE					Fair	
Passaic, Washington, D. C.					78	25.6	91	NW			1		5							Fair	
Pensacola, Callao, Peru	29.97‡	761.2‡			62	16.7	83	SSE	8	1.3			10					Smooth		Overcast	
Portsmouth, Boston, Mass	29.96‡	761.0‡			68	20.0	74	S			1		0			0	0			Clear	
Powhatan, N. 39° 47′, W 75° 27′	29.96‡	761.5‡			73	22.8	76	WSW			1		10		Calm	0	0	Smooth		Cloudy	
Quinnebaug, N. 39° 46′, E 25° 49′	29.90‡	759.4‡			79	26.1	57	NNE			4		2		NE					Fair	
Ranger, Taichow Roads, China	29.61‡	752.1‡			83	28.3	87	NNE			3–4		5					Long	SE	D. clouds	
Richmond, Yokohama, Japan	29.95‡	760.7‡			80	26.7	96	SW			0–1		10			0.74	18.8	Smooth		Clearing	
Rio Bravo, Brownsville, Texas	29.96‡	761.0‡			78	25.6	95	NE			1		0			0	0			Clear	
Santee, Annapolis, Md.	30.03‡	762.7‡			74	23.3	86	N			1		8		NW	0	0			Hazy	
Saratoga, Gardner's Bay, Long I'd., N.Y.	29.96‡	761.0‡			74	23.3	95	Calm			0		8		Calm	0	0			Foggy	
St. Louis, League Island, Pa	30.00‡	762.0‡			72	22.2	76	Calm	0	0			10		Calm	0	0			Cloudy	
Trenton, Copenhagen, Denmark	30.06‡	763.0‡			64	17.8	89	NW			1		10		Calm	0	0	Smooth		Drizzling	
Tuscarora, Off Mare Isl. Navy Yard, Cal.	29.90‡	759.4‡			68	14.4	100	SSW			2		10		Calm	0	0	Smooth		Foggy	
Vandalia, Delaware river	29.99‡	761.7‡			73	22.8	76	NNW			2		10		NW					Misty	
Wabash, Boston, Mass	29.92‡	760.0‡			69	20.6	90	SE	2	0.9			0			0	0			Hazy	
Wyoming, Phalerum Bay, Greece.	29.88‡	758.9‡			83	28.3	43	N			3–4		0					Mod'ate	N	Clear	
Wachusett, New Orleans, La	30.04‡	763.0‡			81	27.2	87	W			2		2		W					Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Connolly.
S. S. Georgia																			F.W.Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 35° 36′, E. 179° 05′		30.00‡	762.0‡				SW			1		0				Light	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 41° 07′, E 165° 27′		29.97‡	761.2‡	64	17.8	94	NE			3		Mist			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson. N. 43° 52′, W. 139° 47′	†.	30.36‡	771.0‡	56	13.3	??	ESE			2		k		E	0	Smooth	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 41° 00′, W. 52° 50′		30.09‡	764.8‡	76.5	24.7	93	WNW			3		10		NW	1 h'r	Mod'ate	NW	Drizzling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 11′, W. 58° 34′		30.08‡	764.0‡				WSW			1		5		W		3	W	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.97‡	761.2‡	72	22.2	?	NW			1		4		SW	0			Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller, Race Point, Cape Cod Bay, Mass.		29.87‡	758.7‡	69	20.6	95	WSW	3	1.3			Fog.			0.08 in. or 2.0 mm	Smooth		Foggy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.02	762.4	68.5	20.3	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.99	761.7	78.4	25.8	90	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.97	761.2	82.8	28.2	65	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	30.04	762.9	75.4	24.1	89	ENE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.00	762.1	85.6	29.8	29	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.04	762.9	89.1	31.7	30	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	84 0	28.9	29	SSE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	29.99	761.7	97.5	36.4	33	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.02	762.6	100.4	38.0	26	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.49	749.1	30.02	762.5	77.5	25.3	44	SE	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.31	744.4	30.05	763.2	73.0	22.8	64	NW	6.5	2 9	.....	.....	5	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.16	740.8	30.00	762.1	71.8	22.1	54	N	.....	.....	1	.....	5ks;cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.84	732.4	30.04	763.0	71.2	21.8	70	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.59	726.1	29.97	761.2	72.0	22.2	51	NNW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.68	728.4	29.95	760.8	76.6	24.8	68	ENE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.02	737.0	29.97	761.3	68.9	20.5	62	N	.....	.....	1	.....	3	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.92	760.0	30.03	762.7	80.6	27.0	39	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.61	752.1	30.00	762.5	72.9	22.7	48	NW	.....	.....	1	.....	6	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.70	754.4	29.97	761.3	66.6	19.2	91	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	81.0	27.2	53	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.36	745.7	30.09	764.3	76.1	24.5	50	E	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:0 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.79	756.7	29.89	759.2	57.0	13.9	.....	E	14	6.3	.....	.....	4	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	29.89	759.2	29.91	759.7	61	16.1	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	Blue sky	Wm McNeil &G.Carrick
Armagh, Observatory	29.73	755.1	29.95	760.7	61.2	16.2	.....	SW	2	0.9	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.95	760.7	59.6	15.3	.....	NW	10	4.5	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.89	759.2	66.3	19 1	.....	WNW	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.53	750.0	29.92	760.0	66.0	18 9	.....	NW	.....	.....	2	.....	10	.....	.....	0.05	1.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	86	30.0	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.82	757.4	29.92	760.0	78.0	25.6	.....	W	.....	.....	1	.....	5	.....	.....	0	0	D. clouds	H. Todd.
Cardington	.....	.....	29.92	760.0	78.0	25.6	.....	W	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.80	756.9	29.92	760.0	80.0	26.7	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.90	759.4	29.94	760.5	60	15.6	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.94	760.5	29.96	761.0	66	18 9	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.75	755.6	29.98	761.5	62.9	17.2	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.74	704.6	30.03	762.7	70.0	21.1	.....	W	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.98	761.5	80	26.7	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.90	759.4	58	14.4	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.93	760.2	29.99	761.7	85.8	29.9	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.69	754.1	29.90	759.4	61.2	16.2	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.89	759.2	29.90	759.4	69	20.6	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.77	756.1	29.93	760.2	79.7	26.5	.....	WSW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.08	764 0	65	18.3	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Dr. S.E.Hoskins,F.R.S.
Helston	29.95	760.7	30.07	763.8	66	18.9	.....	S	.....	.....	1	.....	4ck	.....	.....	0.08	2.0	Fine	M. P. Moyle.
Holyhead	29.96	761.0	29.97	761 2	58	14.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.77	756.1	30.06	763.5	62.8	17.1	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.90	759.4	29.94	760.5	74.2	23.4	.....	SW	10	4.5	.....	.....	7	W	SW	.....	.....	D. clouds	The Met'g'l Office.
Leicester, Museum	29.66	753.4	29.91	759.7	70.0	21.1	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.89	759.2	29.96	761.0	83	28.3	.....	NE	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.76	755.9	29.85	758.2	65	18.3	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.04	763 0	79.2	26.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.92	760.0	78.7	25.9	.....	SSE	.....	.....	3	.....	10k	.....	SSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.40	746.7	29.91	759.7	67.6	19.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J.Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.94	760.5	71	21.7	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.89	759.2	29.97	761.2	64.8	18.2	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.92	760.0	30.03	762.7	61	16.1	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.79	756.7	29.95	760.7	60	15.6	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.87	758.7	56.7	13.7	.....	W	10	4.5	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.86	758.4	29.92	760.0	83.2	28.4	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Serg't W. H.Lyne.
Sheffield	29.65	753.1	29.92	760 0	72.2	22.3	.....	SW	.....	.....	2	.....	7	.....	.....	Blank	Blank	Overcast	W. F. Cooper.
Silloth Rectory	29.59	759.2	29.92	760.0	68.0	20.0	67	W	.....	.....	2	.....	2	.....	.....	0.222	5.64	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.92	760.0	61.0	16.1	.....	SW	11	4.9	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.74	755.4	29.95	760.7	72.7	22.6	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.99	761.7	30.00	762.0	67	19.4	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.94	760.5	29.97	761.2	58.9	14.9	.....	SW	9	4.0	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.91	759.7	29.95	760.7	59.9	15.5	82	NW	2.9	1.3	.....	10	10	.....	.....	1.270	32.26	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.98	761.5	50	10.0	87	Calm	.....	.....	0	.....	10k	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.92	760.0	64.2	17.9	.....	W	.....	.....	2	2ck	.....	.....	.....	0.01	0.3	Fine	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.09	764.2	71.2	21.8	55	S	19.0	8.5	.....	1	1	.....	.....	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	50.5	10.3	83	NE	3	1.3	.....	.....	8	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10'. E. 29° 05'	.....	.....	29.96‡	761.0‡	73	22.8	.....	NE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. J. L. Wharton.
Algeria, N 42° 30', W. 30° 10'	.....	.....	29.84	757.9	57	13.9	.....	NE	.....	.....	4	.....	5	.....	NNW	3	NNE	D. clouds	Capt. Wm. Watson.
Atmosphere, N. 44° 10' W. 47° 15'	.....	.....	30.14	765.5	61	16.1	.....	NNW	.....	.....	5	.....	10	.....	.....	5	NW	Foggy	.....
Barque Commewyne, N. 38° 55', W. 48° 15'	.....	.....	30.17	766.3	71.7	22.1	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. A. Buchan.
Garden Castle, N. 38° 35', W. 18° 50'	.....	.....	30.11	764.8	78	25.6	.....	SW	.....	.....	5	.....	6	.....	.....	4	SW	D. clouds	.....
German Brig "W. von Freeden" N. 24° 55', W. 73° 40'	.....	.....	30.10	764.5	84	28.9	.....	E	.....	.....	6	.....	8	.....	.....	5	E	Showery	Capt. H. v. Freeden.
Theophane, N. 6° 30', W. 22° 50'	.....	.....	29.97‡	761.2‡	78.6	25.9	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected, but apparently not reduced to sea-level. ‡Correction for temperature and elevation applied at this office. §The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.19	665.2	29.91	759.7	64.4	18.0	95	SE			1	6s;ck				0.5	13.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at followin g midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.99	761.7	30.04	762.9	64.9	18.3	69	Calm			0		1						
Fanöe	29.95	760.6	29.97	761.1	75.4	24.1	71	SE			2		4						
Godthaab (Greenland)	29.74	755.4	29.78	756.5	42.3	5.7	91	SW			2		10						
Stykkisholm (Iceland)	29.47	748.5	29.51	749.6	50.7	10.4	74	SE			2		8						
Thorshavn (Faröe)	29.61	752.0	29.64	752.9	56.1	13.4	76	SSW			2		4						
Vestervig	29.88	758.9	29.99	761.7	71.4	21.9	72	E			2		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.5	30.06	763.5	78.1	25.6	53	WSW			1		2			0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.89	759.2	29.99	761.8	78.4	25.8	63	NW			2		2		E	0	0	Slightly cl'dy	Gonvallet, Director.
Arras, Engin'r School	29.74	755.4	29.98	761.8	70.0	21.1	73	NW			3				NW	0	0		Klein, Commandant.
Avignon, Normal School	29.96	760.9	30.04	762.9	88.3	31.3	31	SSW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.47	748.5	30.00	761.9	78.6	25.9	58	SW			1	5c			SW	0.016	0.4	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.74	755.3	29.99	761.8	76.5	24.7	49	NE			1		2			0	0	Slightly cl'dy	Frere Eugene Marie.
Besançon, Normal School	29.16	740.7	30.02	762.5	75.2	24	75	S			1		10		S	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.22	742.1	30.15	765.9	82.4	28	50	SW			1		2ck	SW	S	0.08	2.	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.45	748.0	29.98	761.5	75.2	24	75	W			1		5ck	W	W	0	0	Fair	M. Gence, Director.
Brest, Naval Observatory	29.74	755.3	29.98	761.5	64.8	18.2	86	SW			2		10		SW	0	0	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.85	758.0	30.04	763.0	81.3	27.4	48	WSW			2		0			0	0	Clear	September, Dir.
Caen, Normal School	29.90	759.5	29.97	761.3	75.2	24	54	W			1		0			0	0		Lair, Director.
Chartres, Normal School	29.47	748.5	30.01	762.2	79 2	26.2	75	NW			1		8		W	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.69	754.0	29.98	761.6	85.3	29.6	50	SW			2		5	S	S	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.69	728.7	30.18	766.5	77.0	25.0	61	NE			1		8			0.016	0.4		Allnard, Director.
Commercy, Normal School	29.18	741.1	30.00	761.9	77.0	25	68	SW			1		5ck	SW	SW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.99	736.3	30.13	765.3	84.7	29.3	27	S			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.27	743.4	30.00	761.9	80.6	27.0	58	WNW			1		0			0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.83	757.7	30.04	763.0	73.4	23.0	72	SW			1		5		SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.74	755.3	30.04	762.9	76.6	24.8	61	S			1		0			0	0	Clear	Corrier, Director
Lons-Le-Saulnier, N. School	29.15	740.5	30.01	763.0	80.1	26.7	40	NW			5		5cn		N	0.049	1.25	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.99	761.7	30.09	764.2	67.3	19.6	81	S			3				S	0	0		Lt. P. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.78	756.3	30.04	763.0	78.3	25.7	39	SW			1		0			0	0	Misty	E. Stephan, Director
Mirecourt, Normal School	28.97	735.9	29.97	761.2	77.0	25	62	SW			1		2		SW	0	0	Slightly cl'dy	Barbier, Director.
Mont-Louis	25.00	635.0	30.32	770.0	69.8	21.0	67	ENE	18.6	8.3			3		N	0	0		J. Clave.
Nismes, Normal School	29.83	757.7	30.02	762.6	81.4	33	28	SW			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.74	755.3	78.4	25.8	60	W			1		5		SW	0	0		Marie Davy, Director.
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.72	577.2			59.5	15.3		W			3		5			0	0	Fair	Gen'l de Nansouty.
Perpignan	29.95	760.8	30.06	763.4	79.5	26.4	53	SE	7.4	3.3			1	NW		0	0	Hazy	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.33	643.3			55.6	13.1	93	SSE			1		5			0.142	3.6		Allnard, Director.
Rochefort, Naval Obs'y	30.07	763.7	30.10	764.5	68.9	20.5	72	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.83	760.3	30.02	762.4	74.3	23.5	62	SW			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.6	30.01	762.3	72.1	22.3	68	NNW			2		1	NW	NW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.84	758.0	30.01	762.2	79.5	26.4	61	WSW			2		6	WNW	WSW	0	0	Cloudy	E. Renou, Director.
Tarbes, Normal School	29.04	737.7	30 09	764.2	73.4	23	66	SSW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.41	747.0	30.13	765.4	73.0	22 8	68	E			1		0			0	0		M. Julier Mercadier.
Tours	29.65	753.0	29.84	758.0	78.8	26.0	62	SW			1		7		NW	0	0		Cousin-Marquet.
Versailles, Observatory	29.53	750.0	30.02	762.5	78.1	25.6	58	WNW			8					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.35	745.4	30.02	762.5	84.2	29	56	NW			1		2		SE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	81.3	27.4										0.39	10.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.41	747.0	30.00	762.0	81.9	27.7	51	NNE			1		ns		SW	0.020	0.5		Ch. André, Director.
Nice			30.07	763.6	82.0	27.8	55	SE			1		0			0	0	Clear	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.51	749.6	29.54	750.2	80.6	27.0	90	NE	4.9	2 2			4k		E	0	0	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:06 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97ft.; Mont-Louis, 1,586.40 m., or 5,208.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.17	741.0	30.02	762.4	74.8	23.8	53	E			2		6	W		0	0		Prof. Dr. Hoh.
Berlin	29.88	758.9	30.04	763.1	77.2	25.1	57	SE			1		9			0	0		Prof. Dr. Arndt.
Breslau	29.55	750.6	30.08	764.0	73.2	22.9	59	NNE			2		7			0	0		Royal University Ob's'y.
Carlsruhe	29.57	751.1	29.98	761.4	78.8	26.0	66	SW			2		9	SW		0	0		Albert Sens.
Cassel	29.38	746.2	29.98	761.6	82.4	28.0	50	SSE			2		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.5	85.1	29.5	51	S			2		2			0	0		Director Lose.
Emden			29.92	760.0	71.6	22.0	75	SW			1		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.62	752.4	29.98	761.6	81.5	27.5		SSW			1		4			0	0		Physical Society.
Freienwalde on the Oder	30.00	761.9	30.04	762.9	78.4	25.8	60	NNW			3	1c		WNW		0.020	0.5		Dr. Assmann.
Friedrichshafen	28.63	727.1	30.00	761.9	75.7	24.3	72	SSW			1		10	W		0	0		M. Wilhelm.
Hamburg	29.93	760.3	30.00	762.0	76.3	24.6	62	SSE			3	5c				0	0	Fair	Captain F. Hegemann.
Kiel	29 98	761.4	29.99	761.8	75.4	24.1	61	SE			2		7			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.94	760.5	30.02	762.6	64.6	18.1	61	N			3		4			0.004	0.1		Prof. E. Luther.
Köslin			30.03	762.8	66.9	19.4		W			2		1			0	0		H. Müller.
Leipsic Observatory	29.62	752.4	30.02	762.6	79.7	26.5	50	ESE			1		1			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.96	760.9	30.00	762.1	64.2	17.9	76	WNW			4		5s						Skalweit.
Munich (München)	28.23	717.1	30.10	764.5	77.2	25.1	56	NW			3		8	SW		0	0		Dr. C. Lang.
Neufahrwasser	30.04	763.1	30.06	763.5	64.8	18.2	72	NE			2		7	W		0	0		A. Lothes.
Posen	29.75	755.6	30.03	762.7	73.0	22.8	54	NW			2		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.48	748.9	30.01	762.2	79.7	26.5	60	SW			1		9	NW		0.306	7.77	Thunder-storm.	Imp. University Observatory.
Stuttgart	29.05	737.8	29.93	760.3	80.1	26.7	49	N			1		7	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	724.8	29.97	761.2	76.8	24.6	54	SW	1.1	0.5			4ck	W	W	0	0	Hazy...	T. Hopfner.
Wustrow	30.02	762.4	30.04	763.0	75.7	24.3	66	ENE			1		2s			0	0		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.91	759.8	84.7	29.3		NE			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.47	748.5	29.52	749.8	81.6	27.6	74	WNW	22.0	9.8			4	SW	WNW	0	0	D. clouds	
Deesa	29.05	737.9	29.51	749.5	92.5	33.8	48	WSW	13.1	5.8			10			0	0	Overcast	
Bombay	29.55	750.3	29.59	751.5	79.9	26.6	92	NNW	1.0	0.4			10		SW	0.55	14.0	Overcast	
Poona	27.76	705.0	29.60	751.9	76.0	24.4	78	W					9		W	0.16	4.1	D. clouds	
Lahore	28 64	727.5	29.34	745.2	104.3	40.2	36	Calm	1.5	0.7			3			0	0	Blue sky	
Belgaum	27.14	689.2	29.70	754.3	68.3	20.2	98	W	10.0	4.5			10		W	0.28	7.1	Drizzling	
Roorkee	28.54	724.9	29.41	746.9	90.8	32.7	72	Calm	0.4	0.2			6			0	0		
Agra	28.90	734.0	29.45	748.1	85.7	29.8	47	E					10		E	0	0		
Nagpur	28.47	725.6	29.50	749.2	81.5	27.5	65	W	4.4	2.0			6		E	3.15	80.0	D. clouds	
Lucknow	29.05	737.9	29.42	747.2	86.9	30.5	96	Calm	0.2	0.1			10			0	0	Overcast	
Allahabad	29.16	740.5	29.46	748.2	90.1	32.3	72	WNW	2.0	0.9			8			0	0	D. clouds	
Patna	29.28	743.7	29.46	748.2	89.5	31.9	73	ESE	0.3	0.1			6	ESE	ESE	0.03	0.8	D. clouds	
Hazaribagh	27.49	698.2	29.46	748.3	82.0	27.8	76	SE	5.9	2.6			5					Raining	
Cuttack	29.42	747.4	29.50	749.4	86.3	30.2	74	E	2.0	0.9			4			0	0	D. clouds	
Calcutta (Alipore)	29.47	748.6	29.49	749.1	80.7	27.1	93	SSW	6.0	2.7			8	E		0.77	19.6	Showery	
Goalpara	29.09	738.8	29.47	748.4	85.8	29.9	80	SSW	2.2	1.0			6	E		0	0	D. clouds	
Chittagong	29.45	747.9	29.54	750.3	84.9	29.4	82	SW	2.6	1.2			8			0	0	Gloomy	
Sibsagar	29.16	740.7	29.49	748.9	89.6	32.0	73	NW	1.8	0.8			6			0	0	D. cloudy	
Jubbulpore	28.13	714.6	29.48	748.9	78.8	25.9	91	Calm	2.4	1.1			9		E	0.47	11.9	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	Lower. 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.65	753.1	30.05	763.2	80.4	26.9	45	SE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.52	749.8	30.02	762.5	82 0	28.3	37	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.04	749.1	30.03	762.8	80.6	27.1	41	S	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.4	30.02	762.4	81.3	27.4	30	WSW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.86	758.5	30.05	763.2	78.8	26.0	44	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.17	715.5	30.00	762.0	77 7	25.4	40	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.00	762 1	30.05	763.3	72.1	22.3	54	N	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.76	755.8	30.01	762.2	86.0	30 0	30	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.95	760.7	30.03	762.8	78.1	25 6	57	N	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.64	757.8	30.00	762.1	82.6	28.1	46	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.74	755.3	29.96	761.6	78.1	25.6	29	ENE	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.11	739.4	29.95	760.8	84.7	29.3	60	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.85	758.2	30.04	762.9	78 1	25.6	70	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.5	30.03	762.8	77.9	25.5	53	ENE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.8	85.7	29.7	52	S	7.4	3.3	.....	.....	2	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.8	30.04	762.9	80.6	27.0	37	WSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.85	758.2	80.7	27.1	82	Calm	0	0	.....	.....	2ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.59	751.6	29.78	756.4	79.4	26.3	78	SE	7.9	3.5	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.88	758.9	29.94	760.5	73.9	24.4	94	S	2.4	1.1	.....	.....	10s	.....	.....	0.020	0.51	Cloudy	The Staff.
Wakayama	29.84	757.9	29.89	759.2	77.9	25.4	80	SSE	4.1	1.8	.....	.....	10cs;ck;	s..	.....	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.03	635.8	30.00	762.1	60.8	16.0	77	Calm	.....	.....	0	.....	8	.....	E	0.08	2.0	Cloudy	Prof. L. Perez.
Leon	24.42	620.2	29.97	761.3	67 5	19.7	75	E	.....	.....	3	9ck	0	NE	.....	Inap.	Inap	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	30.00	762.0	56.8	13.8	90	Calm	0	0	.....	.....	10kn	.....	.....	0.20	5.0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.1	17.3	75	NW	.....	.....	1	3ck	5ks	NE	NE	0	0	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.92	760.0	29.93	760.3	73.9	23.3	95	SE	.....	.....	2	.....	10	.....	Calm	0.28	7.0	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.42	615.6	30.17	766.3	61.0	16.1	78	E	.....	.....	1	.....	10	.....	E	0.06	1.6	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.68	573.6	30.16	766.1	55.9	13.3	87	NE	.....	.....	4	.....	10n	.....	E	Inap.	Inap	Rainy	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.3	30.16	766.1	57.0	13.9	82	NW	0.4	0.2	.....	.....	10k	.....	NE	0.15	3.8	Covered	Prof. P. Spina
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.68	751.4	29.83	757.7	81.0	27.2	87	Calm	.....	.....	0	0	8n	.....	NW	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,555.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.7	29.95	760.7	71.6	22.0	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.86	758.4	29.91	759.8	77.7	25.4	.....	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.89	759.3	29.89	759.3	71.6	22.0	.....	SW	.....	.....	1	.....	.....	.....	.....	0.008	0.2	.....	
Hellevoetsluis	29.91	759.7	29.91	759.7	74.7	23.7	72	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.87	758.8	29.92	760.0	82.0	27.8	58	SSE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.88	758.9	29.93	760.3	73.4	23.0	59	SSW	21.5	9.6	.....	.....	4	.....	.....	0.118	3.0	.....	
Brönø	29.91	759.8	29.95	760.8	69.8	21.0	65	SSE	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.89	759.1	30.03	762.7	71.1	21.7	66	WSW	4	2	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.98	761.4	30.02	762.5	64.4	18.0	60	N	7	3	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.85	758.2	30.04	762.9	76.1	24.5	87	W	4.9	2.2	.....	.....	4	.....	.....	0.177	4.5	.....	Dr. J. A. Sampaio.
Campo Major	29.62	737.0	29.98	761.5	88.2	31.2	19	SE	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.02	762.6	30.11	764.8	73.4	23.0	69	SW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.8	30.07	763.6	77.2	25.1	43	NNW	21.0	9.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.02	762.6	30.09	764.3	79.2	26.2	75	W	9.4	4.2	.....	.....	3	.....	.....	0.126	3.2	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	2	NE	Blue sky	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	SW	D. clouds	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warśaw	29.60	751.7	30.00	762.1	70.0	21.1	69	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.61	752.0	30.01	762.3	69.4	20.8	55	W	2	1	.....	.....	6	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.84	758.0	30.08	764.0	71.6	22.0	57	ENE	4	2	.....	.....	6ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.07	763.6	30.08	764.0	73.9	23.3	55	SE	16	7	.....	.....	5ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff*	29.22	742.1	29.82	757.4	75.0	23.9	60	N	7	3	.....	.....	8cks;n	.....	.....	Blank	Blank	.....	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	74.3	23.5	69	N	13	6	.....	.....	10s	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	29.75	755.7	29.77	756.2	79.2	26.2	68	W	2	1	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.56	750.9	30.10	764.4	70.0	21.1	50	SE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.56	750.8	29.76	755.8	75.2	24.0	50	SE	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.21	767.3	30.23	767.8	65.3	18.5	45	WNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.34	719.7	29.63	752.7	96.6	35.9	30	SSW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.90	759.5	29.82	757.4	90.3	32.4	31	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.56	750.9	30.02	762.5	68.4	20.2	44	N	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.76	755.9	30.02	762.5	69.4	20.8	37	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.56	733.1	29.82	757.3	52.5	11.4	83	N	13	6	.....	.....	9kns	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.54	750.2	29.76	755 8	59.6	32.0	36	NNW	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.17	715.5	29.61	752.2	91.8	33.2	34	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.95	735.4	29.42	747.2	80.1	26.7	56	NE	4	2	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.42	747.2	29.69	754.1	81.3	27.4	62	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.29	744.0	29.43	747.6	72.0	22.2	88	N	4	2	.....	.....	2k	.....	.....	.....	.....	Thunder-storm.	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.63	752.6	29.73	755.1	67.1	19.5	96	SE	22	10	.....	.....	10n	.....	.....	.....	.....	Rain & fog	
Nikolaievsk, on the Amoor	29.75	755.7	29.84	757.9	59.5	15.3	96	NE	2	1	.....	.....	10n	.....	.....	.....	.....	Raining	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.94	760.5	30.04	763.0	78.1	25.6	61	ESE	3.0	1.33	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.01	762.2	30.07	763.6	77.7	25.4	59	E	2.3	1.03	.....	2	7	N	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.0	.....	.....	84.6	29.2	36	NE	2.7	1.22	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.81	706.3	29.87	758.6	93.9	34.4	15	SE	4.5	2.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.84	758.0	29.98	761.6	91.0	32.8	52	E	8.6	3.83	.....	1	3	NE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.8	29.98	761.6	79.2	26.2	48	NE	3.8	1.7	.....	3	4	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.91	759.6	29.97	761.3	81.8	27.7	77	SE	1.6	0.7	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.71	754.5	29.76	755.9	85.5	29.7	78	SW	16.1	7.2	.....	3ck	3kn	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.3	30.03	762.7	79.5	26.4	64	WNW	9.8	4.3	.....	0	0	.....	.....	.....	.....	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.6	30.00	761.9	81.0	27.2	81	SE	6.6	2.96	.....	6kn	4kn	SE	SE	0.404	10.25	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.13	765.2	30.17	766.2	71.6	22.0	.....	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.09	764.3	30.14	765.6	72.7	22.6	45	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.07	763.8	30.12	765.1	68.4	20.2	83	NE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Stockholm	29.86	758.4	30.04	762.9	67.6	19.8	67	E	.....	.....	4	.....	4	.....	.....	0.335	8.5	.....	
Wisby	29.91	759.6	29.97	761.1	64.4	18.0	84	NNW	.....	.....	4	.....	5	.....	.....	0.209	5.3	.....	
Sub-Series.																			
Upsala	29.95	760.8	30.04	763.0	69.8	21.0	66	ENE	5.6	2.5	.....	.....	7	E	E	0.005	0.12	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 54° 48', E. 4° 14'	.....	.....	29.95	760.7	62.6	17.0	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.4	30.00	762.1	75.7	24.3	55	N	.....	.....	1	.....	1	.....	.....	0.008	0.2	Clear	The Observatory.
Zurich	28.48	723.3	30.05	763.3	73.4	23.0	67	W	.....	.....	1	.....	4	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, −0.4 mm.; Thermometer, +1.8 Cent.; Relative Humidity, +2 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.2	76.1	24.5	46	NE	9	4.0	.....	.....	2	.....	NW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.2	81.7	27.6	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.58	751 3	29.70	754.3	91.0	32.8	62	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C.V. A.Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.90	759.4	29.96	761.0	66	18.9	89	SW	5	2.2	.....	2k	8ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.94	760.5	29.98	761.5	65	18.3	92	S	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.74	755.4	29.93	760.2	65.5	18.6	70	SW	.....	.....	2	.....	1s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.81	757.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.02	15.7	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.87	758.7	29.96	759.4	56	13.3	90	W	24	10.7	.....	8k	Haze	W	Calm	0.07	1.8	Cloudy	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.00	762.0	65.2	18.4	83	W	1	0.4	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.01	736.8	29.80	756.9	63	17.2	86	SW	4	1.8	.....	0	0	.....	.....	0.010	0.25	Clear	James Stewart.
Granton, Ontario	28.95	735.3	30.02	762.5	65	18.3	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	James Grant.
*Halifax, N. S	29.94	760.5	30.05	763.3	60	15.6	97	SE	2	0.9	.....	.....	Fog	.....	.....	0.019	0.48	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.71	754.6	30.06	763.5	63.7	17.6	81	W	.....	.....	1	4ck	0	W	.....	0.19	4.8	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.68	753.9	30.00	762.0	66	18.9	66	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.97	761.2	30.01	762.2	67.0	19.4	88	SW	8	3.6	.....	9k	0	NW	.....	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.74	755.4	29.94	760.5	69	20.6	76	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.36	745.7	30.03	762.7	65	18.3	63	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.31	744.5	30.03	762.7	67.9	19.9	67	NW	.....	.....	4	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.02	762.5	67	19.4	84	NE	6	2.7	.....	0	0	.....	.....	0.15	3.8	Fair	H. Morgan.
Port Hastings, N. S	30.02	762.5	30.06	763.5	71.6	22.0	.....	SW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.01	762.2	68	20.0	72	NE	3	1.3	.....	2ck	0	W	.....	Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	29.64	752.8	29.96	760.7	62	16.7	83	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.1	30.02	762.5	60	15.6	85	NW	6	2.7	.....	5ck	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.96	761.0	56	13.3	98	SE	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.84	757.9	30.00	762.0	57	13.9	100	S	3	1.3	.....	.....	Fog	.....	.....	0	0	Heavy fog	G. Murdock, C. E.
*Saugeen, Ontario	29.39	746.5	30.09	764.3	65	18.3	81	NE	1	0.4	.....	2cs	0	.....	.....	0	0	Clear	K Stewart.
Stayner, Ontario	29.26	743.2	30.01	762.2	66	18.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.98	761.5	30.03	762.7	63	17.2	91	S	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.69	754.1	30.06	763.5	65	18.3	71	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.95	760.7	29.98	761.5	72.0	22.2	83	S	1	0.4	.....	.....	10ks	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock	29.90	759.6	30.03	762.7	64.1	17.8	78	NE	2	0.9	.....	0	3ks	.....	W	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.98	761.5	30.23	767.8	61.0	16.1	71	NE	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.78	756.4	30.00	762.0	72	22.2	60	S	2	0.9	.....	8cs	Haze	W	.....	0.02	0.5	Fair	
Alpena, Michigan	29.42	747.3	30.05	763.3	62	16.7	72	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	49	9.4	100	W	13	5.8	.....	0	5s	.....	W	0.15	3.8	Cloudy	
Atlanta, Georgia	28.89	733.8	30.00	762.0	71	21.7	90	S	5	2.2	.....	.....	10s	.....	SW	0.93	23.6	Cloudy	
Atlantic City, New Jersey	30.03	762.7	30.04	763.0	72	22.2	95	SW	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Augusta, Georgia	29.85	758.2	30.04	763.0	75	23.9	90	SE	2	0.9	.....	.....	10s	.....	Calm	1.01	25.7	Cloudy	
Baltimore, Maryland	30.00	762.0	30.05	763.3	76	24.4	82	S	3	1.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Barnegat, New Jersey	30.00	762.0	30.03	762.7	76	24.4	86	SW	6	2.7	.....	8ck	Fog	W	Calm	0	0	Foggy	
Bismarck, Dakota	28.06	712.7	29.92	760.0	66	18.9	79	SE	3	1.3	.....	1ck	0	Calm	.....	0	0	Clear	
Boerne, Texas	28.58	725.9	29.83	757.7	80	26.7	66	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.09	688.1	30.05	763.3	64	17.8	43	S	3	1.3	.....	5k	2s	SW	SW	0	0	Fair	
Boston, Massachusetts	29.85	758.2	30.00	762.0	74	23.3	81	W	2	0.9	.....	3c;ck	Haze	W	Calm	0	0	Fair	
Brackettville, Texas	28.88	733.5	29.86	758.4	79	26.1	47	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.87	758.7	64	17.8	89	SE	8	3.6	.....	2k	0	SW	.....	0	0	Fair	
Brownsville, Texas	29.91	759.7	29.96	761.0	82	27.8	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.34	745.2	30.01	762.2	72	22.2	42	E	4	1.8	.....	1cs	Haze	Calm	Calm	Inap.	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	59	SW	.....	.....	1	5cs	0	E	.....	0	0	Fair	
Burlington, Vermont	29.70	754.4	29.97	761.2	73	22.8	72	SW	3	1.3	.....	8c	0	W	.....	Inap.	Inap.	Fair	
Cairo, Illinois	29.69	754.1	30.06	763.5	76	24.4	82	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.38	695.4	29.96	761.0	60	15.6	71	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.11	764.8	30.12	765.0	80	26.7	87	W	16	7.2	.....	Haze	1ks	.....	SW	0.10	2.5	Hazy	
Cape Henry, Virginia	30.04	763.0	30.05	763.3	75	23.9	86	S	1	0.4	.....	.....	10s	.....	S	1.32	33.5	Cloudy	
Cape Lookout, N. Carolina	30.09	764.3	30.11	764.8	81	27.2	78	SW	20	8.9	.....	2cs	0	W	.....	0.11	2 8	Fair	
Cape May, New Jersey	30.01	762.2	30.04	763.0	72	22.2	90	S	5	2.2	.....	.....	10n	.....	W	0.40	10.2	Light rain	
Castroville, Texas	29.24	742.7	29.91	759.7	79	26 1	74	S	1	0.4	.....	5ck	5s	S	S	0	0	Cloudy	
Charleston, South Carolina	30.02	762.5	30.07	763.8	84	28.9	71	SW	12	5.4	.....	2c	0	Calm	.....	0	0	Fair	
Charlotte, North Carolina	29.21	741.9	29.99	761.7	71	21.7	100	S	4	1.8	.....	.....	10n;fg	.....	Calm	1.02	25.9	Light rain	
Chattanooga, Tennessee	29.24	742.7	30.02	762.5	70	21.1	90	NW	4	1.8	.....	8ck	0	NE	.....	0 59	15.0	Fair	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	55	12.8	62	SW	4	1.8	.....	5ck	0	W	.....	Inap.	Inap.	Fair	
Chicago, Illinois	29 34	745.2	30.05	763.3	69	20.6	65	N	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.41	747.0	30.04	763.0	72	22.2	76	NW	5	2.2	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Cleveland, Ohio	29.30	744.2	30.00	762.0	71	21.7	80	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.24	717.3	29.84	757.9	72	22.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.20	741.7	30.00	762.0	71	21.7	75	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Concho, Texas	28.14	714.7	29.75	755.6	74	23.3	59	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Corsicana, Texas	29.58	751.3	30.02	762.5	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0.51	13.0	Clear	
Davenport, Iowa	29.47	748.5	30.09	764.3	66	18.9	74	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.42	645.7	.....	.....	71	21.7	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.96	735.6	30.08	764.0	77	25.0	86	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.27	743.4	30.03	762.7	76	24.4	86	SE	2	0.9	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Denver, Colorado	24.92	633.0	30.17	766.3	67	13.9	69	S	2	0.9	.....	2k	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.22	742.2	30.05	764.0	61	16.1	77	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Detroit, Michigan	29.34	745.2	29.99	761.7	67	19.4	74	NE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.48	698.0	29.66	753.4	73	22.8	50	SW	20	8.9	.....	.....	8s	.....	N	0	0	Threatening	
Dubuque, Iowa	29.40	746.7	30.08	764.0	68	20.0	70	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.27	743.4	29.92	760.0	66	18.9	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texa	29.22	742.2	29.92	760.0	80	26.7	66	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Eastport, Maine	29.93	760.2	30.00	762.0	55	12.8	100	S	2	0.9	.....	.....	Fog	.....	S	0.01	0.3	Dense fog	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.34	669.0	.....	.....	69	20.6	61	E	2	0.9	.....	2cs	0	E	.....	0	0	Fair	
Erie, Pennsylvania	29.31	744.5	30.00	762.0	72	22.2	71	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.35	745.5	29.98	761.5	63	17.2	78	W	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Florence, Arizona	28.38	720.8	29.98	761.5	85	29.4	44	W	8	1.3	.....	8ck	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.76	705.1	.....	.....	65	18.3	73	SW	2	0.9	.....	1ck	0	SW	.....	0	0	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	66	18.9	59	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.52	749.8	30.03	762.7	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.31	642.9	30.11	764.8	73	22.8	76	NE	4	1.8	.....	5ck	0	Calm	.....	0.02	0.5	Fair	
Fort Griffin, Texas	28.80	731.5	30.02	762.5	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.30	693.4	.....	.....	64	17.8	78	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.62	752.3	77	25.0	65	S	4	1.8	.....	2ck	2s	Calm	Calm	Inap.	Inap.	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.91	759.7	74	23.3	86	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.01	711.4	.....	.....	67	19.4	74	E	1	0.4	.....	4ck	0	E	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	60	N	.....	.....	1	5k	0	SW	.....	Inap.	Inap.	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.79	756.7	80	26.7	66	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.98	761.5	30.02	762.5	83	28.3	79	SW	4	1.8	.....	5ck	2ks	Calm	N	Inap	Inap.	Fair	
Gridham, Texas	28.97	735.8	29.98	761.5	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.42	747.3	30.05	763.3	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.09	738.9	29.99	761.7	73	22.8	85	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.28	743.7	30.03	762.7	71	21.7	63	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.01	762.2	30.04	763.0	81	27.2	87	Calm	0	0	.....	10cs	0	N	.....	0.11	2.8	Cloudy	
Jacksboro, Texas	28.82	732.0	29.90	759.4	76	24.4	73	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	83	28.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.46	748.3	30.06	763.5	68	20.0	79	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Key West, Florida	29.98	761.5	30.01	762.2	83	28.3	75	NE	16	7.2	.....	5k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.00	762.0	30.03	762.7	78	25.6	82	SW	16	7.2	.....	5cs	0	Calm	.....	1.08	27.4	Fair	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	69	20.8	88	NE	4	1.8	.....	.....	10ks	.....	NE	0.11	2.8	Cloudy	
La Crosse, Wisconsin	29.31	744.5	30.02	762.5	69	20.6	70	S	6	2.7	.....	2k	0	Calm	.....	0	0	Clear	
La Mesilla, New Mexico	26.14	663.9	30.20	769.1	67	19.4	64	N	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
Laredo, Texas	29.55	750.6	29.87	758.7	85	29.4	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.24	742.7	30.05	763.3	67	19.4	74	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Little Rock, Arkansas	29.71	755.4	30.08	764.0	74	23.3	84	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.55	750.6	29.89	759.2	63.0	17.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.49	749.0	30.03	762.7	70	21.1	75	NW	3	1.3	.....	0	Sm'e	.....	Calm	0.03	0.8	Clear	
Lynchburg, Virginia	29.40	746.7	30.05	763.3	69	20.6	90	NW	2	0.9	.....	.....	10n	.....	Calm	0.41	10.4	Light rain	
Madison, Wisconsin	29.07	738.4	30.02	762.5	67	19.4	74	SW	5	2.2	.....	5ck	2ks	W	W	0	0	Fair	
Marquette, Michigan	29.24	742.7	29 91	759.7	69	20.6	61	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.42	721.9	30.09	764.3	80	26.7	70	Calm	0	0	.....	0	2s	.....	NE	Inap.	Inap.	Fair	
Memphis, Tennessee	29.72	754.9	30.05	763.3	74	23.3	95	NW	6	2.7	.....	0	1ks	.....	NW	0.03	0.8	Clear	
Milwaukee, Wisconsin	29.32	744.7	30.03	762.7	65	18.3	73	W	7	3.1	.....	0	1ks	.....	Calm	0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	77	25.0	91	Calm	0	0	.....	.....	10s;ks	.....	W	0.01	0.3	Cloudy	
Montgomery, Alabama	29.81	757.2	30.04	763.0	76	24.4	95	S	1	0.4	.....	.....	10ks	.....	S	0.25	6.3	Threatening	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.05	737.9	30.01	762.2	69	20.6	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Mt. Washington, N. H.....	23.94	608.1	30.30	769.6	50	10.0	100	NW	23	10.3	.....	.....	Fog	.....	NW	0.92	23.4	Foggy.....	
Nashville, Tennessee.....	29.61	749.5	30.02	762.5	73	22.8	85	Calm	0	0	.....	.....	10s	.....	Calm	0.61	13.0	Cloudy.....	
New Haven, Connecticut.....	29.89	759.2	30.00	762.0	77	25.0	82	Calm	0	0	.....	8ck	2s;hz	SW	Calm	0	0	Hazy.....	
New London, Connecticut....	29.87	761.2	30.02	762.5	78	22.8	90	SW	2	0.9	.....	9ck	Fog	W	Calm	0	0	Cloudy.....	
New Orleans, Louisiana.....	29.95	760.7	30.01	762.2	81	27.2	78	SE	2	0.9	.....	5cs	5s	Calm	S	0.07	1.8	Threatening	
Newport, Rhode Island.....	29.96	761.0	30.01	762.2	72	22.2	90	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New York, New York.....	29.86	758.4	30.02	762.5	74	23.3	81	SW	4	1.8	.....	5cs	Haze	Calm	Calm	0	0	Hazy.....	
Norfolk, Virginia.....	30.00	762.0	30.06	763.5	75	23.9	90	SW	10	4.5	.....	.....	10s	.....	SW	0.77	19.6	Cloudy.....	
North Platte, Nebraska	27.14	689.3	29.62	752.3	64	17.8	94	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter..	30.07	763.8	30.11	764.8	48.5	9.2	96	W	2	0.9	.....	5ck;k	Fog	N;W	Calm	0	0	Fair.....	
Omaha, Nebraska.....	28.94	735.1	29.99	761.7	70	21.1	75	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.....	
Oswego, New York.....	29.73	755.1	30.04	763.0	69	20.6	61	N	3	1.3	.....	8c	0	W	.....	0.07	1.8	Fair.....	
Pembina, Dakota.....	28.97	736.8	29.76	755.9	60	15.6	88	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.98	761.5	30.02	762.5	75	23.9	86	SW	6	2.7	.....	10cs	Haze	Calm	Calm	0	0	Cloudy.....	
Phœnix, Arizona.....	28.68	728.5	30.34	770.6	90	32.2	41	SE	1	0.4	.....	.....	10ks	.....	NE	0	0	Cloudy.....	
Pike's Peak, Colorado.....	18.14	460.9	30.36	771.1	40	4.4	19	N	10	4.5	.....	2k	2ks	W	W	0	0	Fair.....	
Pilot Point, Texas.....	29.04	737.6	29.83	757.7	89	31.7	66	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Ploche, Nevada.....	.....	.....	.....	.....	66	18.9	50	Calm	0	0	.....	0	2s	.....	Calm	0.05	1.3	Fair.....	
Pittsburg, Pennsylvania.....	29.24	742.7	30.02	762.5	68	20.0	90	NE	2	0.9	.....	.....	Fog	.....	Calm	1.05	26.7	Foggy.....	
Port Huron, Michigan.....	29.36	745.7	30.00	762.0	70	21.1	66	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	29.93	760.2	29.98	761.5	67	19.4	89	Calm	0	0	.....	10k	Fog	Calm	.....	0	0	Cloudy.....	
Portland, Oregon.....	30.05	763.3	30.13	765.3	56.7	13.7	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.65	681.2	30.21	767.3	63	17.2	78	S	2	0.9	.....	2cs	0	Calm	.....	0.17	4.3	Fair.....	
Punta Rassa, Florida.....	30.01	762.2	30.08	762.7	78	25.6	73	E	12	5.4	.....	5cs	0	W	.....	0.28	7.1	Fair.....	
Red Bluff, California.....	29.49	749.0	29.83	757.7	76	24.4	45	SE	2	0.9	.....	1c	0	S	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.80	756.9	30.01	762.2	80	26.7	70	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York.....	29.44	747.8	30.03	762.7	69	20.6	56	Calm	0	0	.....	0	Haze	.....	.....	0.08	2.0	Clear.....	
Roseburg, Oregon.....	29.53	750.0	30.10	764.5	53	11.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.76	755.9	29.84	757.9	65	18.3	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.53	750.0	30.08	764.0	70	21.1	57	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.03	762.7	30.04	763.0	77	25.0	91	SE	4	1.8	.....	5ck	2s	Calm	Calm	0.36	9.1	Cloudy.....	
St. Paul, Minnesota.....	29.16	740.7	29.95	760.7	65	18.3	73	SW	8	3.6	.....	5ck	0	W	.....	0	0	Fair.....	
Salt Lake City, Utah.....	25.64	651.2	29.98	761.5	80	26.7	25	SE	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy.....	
San Antonio, Texas.....	29.33	745.0	29.85	758.2	82	27.8	71	Calm	0	0	.....	8ck	0	SE	.....	0	0	Cloudy.....	
San Diego, California.....	29.85	758.2	29.92	760.0	64	17.8	94	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.36	745.7	30.00	762.0	70	21.1	80	W	6	2.7	.....	1c	Haze	W	Calm	0	0	Clear.....	
Sandy Hook, New Jersey....	29.98	761.5	30.01	762.2	77	25.0	73	SW	5	2.2	.....	5ck	5s;hz	Calm	W;Calm	0	0	Cloudy.....	
San Francisco, California..	29.84	757.9	29.90	759.4	57	13.9	87	W	4	1.8	.....	.....	Fog	.....	W	0	0	Foggy.....	
Santa Fé, New Mexico.....	23.48	596.4	30.02	762.5	59	15.0	59	E	4	1.8	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Savannah, Georgia.....	29.99	761.7	30.03	764.0	86	30.0	72	S	7	3.1	.....	0	2s	.....	Calm	0.22	5.6	Fair.....	
Shreveport, Louisiana.....	29.82	757.4	30.03	762.7	79	26.1	82	NE	1	0.4	.....	2k	0	Calm	.....	0.23	5.8	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.10	764.5	30.18	766.3	81	27.2	87	SW	12	5.4	.....	0	5ks	.....	SW	0.77	19.6	Fair.....	
Socorro, New Mexico.....	25.54	648.7	29.61	752.1	68	20.0	60	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair.....	
Springfield, Ill.....	29.46	748.0	30.12	765.0	67	19.4	64	N	1	0.4	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Springfield, Massachusetts	29.87	758.7	30.00	762.0	73	22.8	81	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy.....	
Stockton, Texas.....	26.96	684.8	29.96	761.0	72	22.2	9	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.99	761.7	30.04	763.0	65	18.3	100	SW	6	2.7	.....	5k	Fog	SW	.....	0	0	Fair.....	
Toledo, Ohio, ...	29.36	745.5	30.01	762.2	68	20.0	60	W	1	0.4	.....	2k	Haze	W	Calm	0	0	Fair.....	
Tucson, Arizona.....	27.40	698.2	30.04	763.0	81	27.2	74	Calm	0	0	.....	5ck	0	S	.....	0.14	3.6	Fair.....	
Umatilla, Oregon..... ..	29.62	752.3	30.16	766.5	64.0	17.8	68	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.08	738.6	29.86	758.4	83	28.3	56	E	4	1.8	.....	2ck	8s	Calm	N	0	0	Cloudy.....	
Vicksburg, Mississippi.....	29.80	756.9	30.05	763.3	75	23.9	95	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Virginia City, Montana.....	24.30	617.2	29.78	756.4	63	17.2	24	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.45	748.0	29.81	757.2	65	18.3	63	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.92	760.0	30.03	762.7	76	24.4	91	SW	1	0.4	.....	.....	.....	.....	.....	0	0	Clear.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	75	23.9	68	Calm	.....	.....	0	0	0	.....	.....	0.03	0.8	Light rain...	
Wilmington, N. Carolina.....	30.02	762.5	30.09	764.3	80	26.7	82	SW	8	3.6	.....	10a	0	.....	SW	0.50	12.7	Clear.....	
Winnemucca, Nevada.....	25.67	652.0	30.03	762.7	68	20.0	22	SW	14	6.3	.....	5ck	0	NE	.....	1.05	26.9	Fair.....	
Wood's Holl, Mass.....	29.98	761.5	30.01	762.2	71	21.7	90	SW	6	2.7	.....	1ck	4s	N	Calm	0	0	Fair.....	
Yankton, Dakota.....	28.76	730.5	30.00	762.0	66	18.9	73	S	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Yuma, Arizona.....	29.66	753.4	29.82	757.4	80	30.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2c	2ks	Calm	Calm	0	0	Fair.....	
Havana, Cuba, W. I.....	29.92	760.0	29.97	761.2	83	28.3	70	SE	1.2	0.5	.....	0	0	.....	.....	0	0	Clear.....	J. B. Gordon.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A....	25.18	639.6	.....	.....	68.5	20.3	78	Calm	.....	.....	0	3c;cs	1ks	.....	.....	0	0	.....	James Gall.
Navassa, W. I.....	29.85	758.9	29.96	761.0	84	28.9	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.97	761.2	80	26.7	87	E	.....	.....	2	3c	5k	E	.....	0.650	16.51	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,500 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.850 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.84 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.6‡	.....	.....	83	28.3	91	SW	0	0	.....	.....	5?	.....	SW	0.10	2.5	.....	.....	Threat'ing?.	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.93‡	760.2‡	.....	.....	77	25.0	95	Calm	.....	.....	0	.....	10s	.....	SW	1.31	33.3	.....	.....	Overcast....	
Adams, Mare I'd, Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	59	15.(	100	SSW	.....	.....	2	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Alliance, Copenhagen, Denmark...	30.04‡	763.0‡	.....	.....	68	20.0	79	Calm	.....	.....	0	.....	5	.....	SE	.....	.....	.....	.....	D. clouds....	
Ashuelot, Yokohama, Japan	29.98‡	761.5‡	.....	.....	78	25.6	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Drizzling	
Colorado, New York, N. Y.....	29.89‡	759.2‡	.....	.....	76	24.4	82	SSW	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Misty.....	
Constitution, Navy Yard, Brooklyn, N.Y.	30.00‡	762.0‡	.....	.....	77	25.0	82	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Enterprise, Cronstadt, Russia.....	30.05‡	763.3‡	.....	.....	69	20.6	80	ESE	.....	.....	3	.....	6	.....	E	0	0	.....	.....	Cloudy.....	
Essex, Buenos Ayres, Argentine Rep., S. A	30.19‡	766.8‡	.....	.....	51	10.6	93	NE	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	Hazy.....	
Franklin, Norfolk, Va.....	30.05‡	763.3‡	.....	.....	75	23.9	90	SSW	6	2.7	.....	.....	10	.....	SW	0.4	10	.....	.....	Cloudy.....	
Hartford, S. 28° 25′, W. 41° 05′.....	30.13‡	765.3‡	.....	.....	72	22.2	80	NNW	.....	.....	5	.....	2	.....	N	0	0	Mod'ate	N	Clear.....	
Independence, Mare I'd. Navy Yard, Cal.	29.82‡	757.4‡	.....	.....	62	16.7	88	SW.	4	1.8	.....	.....	5?	.....	SW	.....	.....	.....	.....	Cloudy?.....	
Kearsarge, Charlottetown, Prince Edward Island	30.00‡	762.0‡	.....	.....	63	17.2	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Michigan, Chicago, Ill.....	30.04‡	763.0‡	.....	.....	66	18.9	100	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Monocacy, Shanghai, China.....	29.54‡	750.3‡	.....	.....	83	28.3	91	ENE	.....	.....	3	.....	5	.....	ENE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan.....	29.96‡	761.0‡	.....	.....	80	26.7	100	Calm	.....	.....	0	.....	n	.....	.....	0	0	.....	.....	Hazy.....	
New Hampshire, Port Royal, S. C.....	30.06‡	763.5‡	.....	.....	82	27.8	83	SW	9	4.0	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Onward, Callao, Peru.....†.	30.01‡	762.2‡	.....	.....	63	17.2	62	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Long	W	Clear.....	
Palos, Shanghai, China.....	29.56‡	750.8‡	.....	.....	81	27.2	91	ENE	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	76	24.4	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru.....	30.01‡	762.2‡	.....	.....	60	15.6	88	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Smooth	.....	Cloudy?.....	
Portsmouth, Boston, Mass.....	30.01‡	762.2‡	.....	.....	71	21.7	90	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Powhatan, N. 38° 04′, W 74° 56′.....	30.08‡	764.0‡	.....	.....	73	22.8	95	SSW	.....	.....	2	.....	10	.....	SW	0	0	Smooth	.....	Cloudy.....	
Quinnebaug, N. 37° 49′, E 23° 50′.....	29.92‡	760.0‡	.....	.....	78	25.6	54	N	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Ningpo, China.....	29.50‡	749.3‡	.....	.....	83	28.3	87	NNE	.....	.....	2	.....	5?	.....	.....	.....	.....	Smooth	.....	Clear?.....	
Richmond, Yokohama, Japan	29.95‡	760.7‡	.....	.....	80	26.7	96	Calm	.....	.....	0	.....	10	.....	.....	0.83	21.1	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.98‡	761.5‡	.....	.....	78	25.6	95	NE	.....	.....	1	.....	2	.....	E	0.26	6.6	.....	.....	Fair.....	
Santee, Annapolis, Md.....	30.03‡	762.7‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	10	.....	SW	0.01	0.3	.....	.....	Overcast....	
Saratoga, Gardner'sBay, LongI'd., N.Y	30.02‡	762.5‡	.....	.....	73	22.8	100	S	.....	.....	2	.....	2	.....	W	0	0	.....	.....	D. clouds....	
St. Louis, League Island, Pa	30.02‡	762.5‡	.....	.....	75	23.9	95	SW	7	3.1	.....	.....	10	.....	SSW	0	0	.....	.....	Cloudy.....	
Trenton, Copenhagen, Denmark...	30.05‡	763.3‡	.....	.....	61	16.1	94	SE	.....	.....	0–1	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.88‡	758.9‡	.....	.....	60	15.6	100	SW	.....	.....	2	.....	10	.....	Calm	0	0	Smooth	.....	Overcast....	
Vandalia, N. 35° 05′, W. 74° 55′.....	30.02‡	762.5‡	.....	.....	73	22.8	95	S	.....	.....	1–2	.....	10	.....	S	.....	.....	.....	.....	Misty.....	
Wabash, Boston, Mass.....	29.97‡	761.2‡	.....	.....	76	24.4	68	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, Phalerum Bay, Greece.	29.94‡	760.5‡	.....	.....	82	27.8	39	NNE	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	NE	Clear	
Wachusett, New Orleans, La	30.02‡	762.5‡	.....	.....	80	26.7	87	NE	.....	.....	2	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction** between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not **give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, **instead of 7:35 A. M.,** Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F.W.Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 36° 10′, E. 177° 03′		30.00‡	762.0‡				SW			1		0				Light	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 40° 29′, E 160° 07′ †.		29.96‡	761.0‡	65	18.3	94	SE			2		Fog				Smooth		Drizzling	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 41° 52′, W. 134° 16′ †.		30.40‡	772.1‡	60	15.6	100	Var.			2		k		NW	0	Light	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Unddtsch.
S. S. Leipzig, Capt. F. Peiffer, N. 42° 11′, W. 47° 48′		30.19‡	766.8‡	61.0	16.1	85	NE			3		10		NE		Smooth	NE	Drizzling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 22′, W. 63° 21′		30.07‡	763.8‡				NW			3		10		NW		3	W	Rain & fog	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.07‡	763.8‡	72	22.2	90	SW			1		8		SW	0			Cloudy	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Boston, Mass		29.89‡	759.2‡	74	23.3	86	Calm	0	0			Haze			0			Hazy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

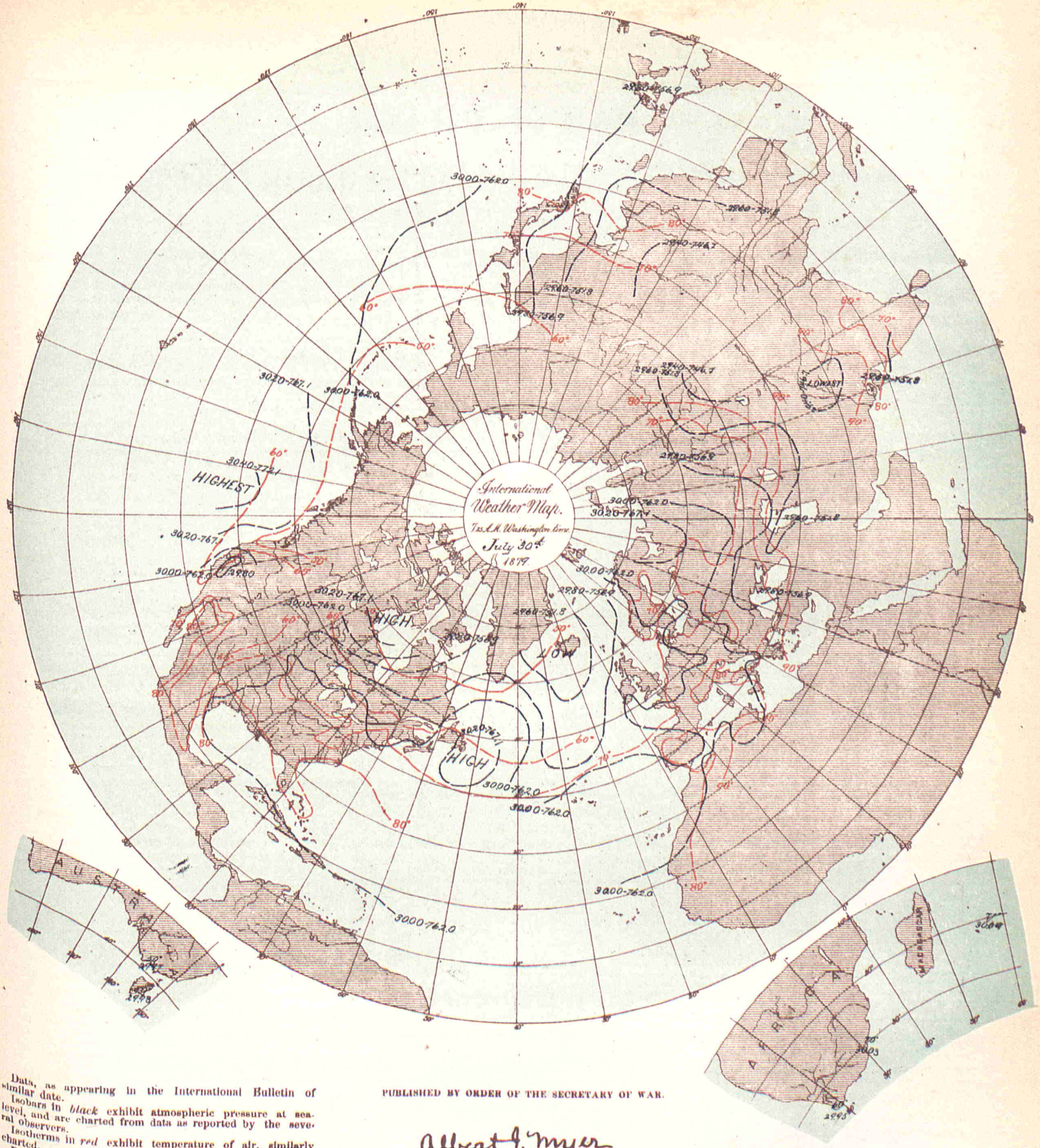
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 31, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.8	68.5	20.3	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.95	760.8	81.1	27.3	77	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.94	760.4	86.7	30.4	53	ESE	.....	.....	2	.....	0	.....	.....	Inap.	Inap.	Clear	Tourillere.
La Calle	.....	.....	29.99	761.7	80.2	26.8	76	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.10	764.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.97	761.2	95.9	35.5	16	NE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Herbin.
Geriville	.....	.....	30.02	762.6	92.7	33.7	26	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	84.2	29.0	29	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Biskra	.....	.....	30.01	762.2	98.2	36.8	29	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	29.98	761.5	99.3	37.4	30	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.47	748.4	29.99	761.7	79.7	26.5	41	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.30	744.3	30.04	763.0	78.1	25.6	49	SSW	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.16	740.6	30.00	761.9	77.9	25.5	55	N	.....	.....	1	.....	5s;cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.82	732.0	30.01	762.2	76.1	24.5	64	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.63	727.3	30.00	762.1	75.2	24.0	50	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.67	728.3	29.94	760.5	79.5	26.4	76	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.00	736.6	29.95	760.6	73.4	23.0	60	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. T Stanecki.
Pola	29.91	759.7	30.02	762.4	81.0	27.2	56	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.62	752.3	30.07	763.6	78.1	25.6	50	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.75	755.7	30.02	762.6	70.5	21.4	81	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.92	760.0	30.02	762.6	82.9	28.3	63	NNW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.33	745.0	30.08	764.1	79.2	26.2	58	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.81	757.2	29.91	759.7	53.0	11.7	.....	ESE	5	2.2	.....	.....	9	.....	.....	1.290	32.77	Drizzling	W. Boswell.
Ardrossan	29.80	756 9	29.82	757.4	55	12.8	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	Wm McNeil &G.Carrick
Armagh, Observatory	29.53	750.0	29.75	755.6	54.7	12.6	.....	NE	5	2.2	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.78	756.4	63.8	17.7	.....	SE	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.77	756.1	61.8	16.6	.....	S	24	10.7	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.44	747.8	29.84	757.9	63.3	17.4	.....	SW	.....	.....	2	.....	10	.....	.....	0.03	0.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.93	760.2	85	29.4	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.78	756.4	29.88	758.9	66.0	18.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.85	758.2	65.4	18.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John McLaren.
Chatham, School M. E	29.77	756.1	29.90	759.4	66.9	19.4	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper R. E.
Donaghadee	29.70	754.4	29.75	755.6	53	11.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.88	758.9	29.90	759.4	64	17.8	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.59	751.6	29.82	757.4	63.3	17.4	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.43	696.7	29.72	754.9	72.0	22.2	.....	W	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.98	761.5	80	26.7	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.70	754.4	60	15.6	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.94	760.5	30.00	762.0	83.2	28.4	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.58	751.3	29.78	756.4	55.0	12.8	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [O.
Great Yarmouth	29.91	759.7	29.91	759.7	63	17.2	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.71	754.6	29.87	758.7	67.8	19.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.76	755.9	29.97	761.2	66	18.9	.....	SSW	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.82	757.4	29.94	760.5	65	18.3	.....	S	.....	.....	2	.....	10	.....	.....	0.30	7.6	Showery	M. P. Moyle.
Holyhead	29.73	755.1	29.73	755.1	63	17.2	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.67	753.6	29.95	760.7	65.6	18.7	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.84	757.9	29.88	758.9	67.0	19.4	.....	S	11	4.9	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester, Museum	29.60	751.8	29.85	758.2	63.2	17.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	80	26.7	.....	NE	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.76	755 9	29.86	758.4	60	15.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.07	763.8	85.0	29.4	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.67	753.6	29.86	758.4	64.7	18.2	.....	SSE	.....	.....	2	.....	10d	.....	SSE	0.369	9.37	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.31	744.5	29.82	757.4	64.0	17.8	.....	S	.....	.....	3–4	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.87	758.7	65	18.3	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.78	756.4	29.85	758.2	60.9	16.1	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.64	752.8	29.74	755.4	61	16.1	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.60	751.8	29.76	755.9	59	15.0	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.92	760.0	59.3	15.2	.....	SE	20	8.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.91	759.7	84.8	29.3	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Serg't W. H.Lyne.
Sheffield	29.60	751.8	29.87	758.7	65.8	18.8	.....	SW	.....	.....	1	.....	10	.....	.....	0.13	3.3	Overcast	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.76	755.9	62.2	16.8	93	E	.....	.....	2	.....	10	.....	.....	0.420	10.67	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.81	757.2	63.5	17.5	.....	SSE	12	5.4	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	29.68	753.9	29.90	759.4	63.6	17.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.84	757.9	29.85	758.2	66	18.9	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.70	754.4	29.73	755.1	59.7	15.4	.....	NNE	16	7.2	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape of Good Hope Obs'y	30.06	763.5	30.10	764.6	59.6	15.3	79	S	21.9	9.8	.....	4	10	.....	.....	0.130	3.30	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.85	758.2	47	8.3	86	NW	.....	.....	1	.....	8k	.....	.....	0	0	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.83	757.7	56.4	13.6	.....	E	.....	.....	2	.....	10m	.....	.....	0.74	18.8	Raining	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	68.1	20.1	59	SSE	20.5	9.2	.....	0	7	.....	SSE	0	0	Squally	C. Melddrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	49.2	9.6	92	SSW	.....	.....	2	.....	9	.....	.....	0.26	6.6	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Greetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 10'. E. 29° 05'	.....	.....	29.95‡	760.7‡	76	24.4	.....	ENE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt.W. J. L. Wharton.
Algeria, N. 47° 45', W. 38° 00'	.....	.....	30.22	767.6	55	12.8	.....	SSW	.....	.....	1	.....	10	.....	W	2	NW	Overcast	Capt. Wm. Watson.
Atmosphere, N. 44° 15' W. 45° 20'	.....	.....	30.16	766.1	62	16.7	.....	Calm	.....	.....	0	.....	8	.....	.....	7	confused	D. clouds	.....
Barque Commewyne, N. 39° 10'. W. 47° 05'	.....	.....	30.23	767.8	75.2	24.0	.....	SSW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Capt. A. Buchan.
Garden Castle, N. 39° 20', W. 22° 40'	.....	.....	29.94	760.5	82	27.8	.....	W	.....	.....	3	.....	8	.....	.....	4	WNW	D. clouds	.....
German Brig "W. von Freeden" N. 20° 45', W. 73 00'	.....	.....	30.19	766.8	84	28.9	.....	E	.....	.....	5	.....	5	.....	.....	4	E	D. clouds	Capt. H. v. Freeden.
Theophane, N. 8° 35', W. 24° 30'	.....	.....	29.95‡	760.7‡	78.8	26.0	.....	SSW	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected, but apparently not reduced to sea-level. ‡Correction for temperature and elevation applied at this office. §The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature. Inches.	BAROMETER. Corrected or instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.23	666.2	29.95	760.7	66.6	19.2	95	Calm			0		10s			0.9	23.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.97	761.1	30.01	762.3	70.7	21.5	64	SSE			2		5						
Fanöe	29.92	760.0	29.94	760.5	70.3	21.3	86	SE			2		5						
Godthaab (Greenland)	29.50	749.4	29.55	750.5	44.4	6.9	96	S			4		10					Raining	
Stykkisholm (Iceland)	29.70	754.3	29.74	755.4	48.2	9.0	78	E			4		8					Raining	
Thorshavn (Faröe)	29.87	758.8	29.91	759.7	56.1	13.4	87	SE			2		5					Foggy	
Vestervig	28.84	757.9	29.95	760.7	71.4	21.9	80	E			2		9					Thunder-storm.	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.41	747.0	29.96	761.0	69.8	21	85	SSW			1		10			0	0	Covered	Collignon, Director.
Amiens, Normal School	29.82	757.5	29.93	760.2	77.7	25.4	71	SW			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.69	754.0	29.93	760.3	73.4	23.0	74	SW			1				SW	0	0		Klein, Commandant.
Avignon, Normal School	29.94	760.5	30.02	762.5	87.8	31	33	SW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.41	746.9	29.93	760.2	84.2	29.0	44	S			1		5km		SW	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.09	754.0	29.94	760.4	75.7	24.3	69	S			1		10		SW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.13	740.0	29.98	760.6	82.4	28	65	S			1		2		S	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.9	30.11	764.8	86.4	30.2	52	S			3		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.42	747.3	29.95	760.6	79.9	26.6	65	WSW			1		0			0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.63	752.5	29.87	758.7	64.8	18.2	92	SW			2		10		SW	0.187	4.75	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.57	751.1	29.96	761.0	86.4	30.2	35	E			2		1		E	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	29.85	758.2	29.93	760.1	73.8	23.2	66	SE			1				S	0	0		Lair, Director.
Chartres, Normal School	29.43	747.4	29.97	761.3	76.1	24.5	76	S			1		10		W	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.7	29.93	760.3	84.9	29.4	49	SW			1		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.6	29.87	758.7	87.1	30.6	33	NE			1		2			0	0		Alluard, Director.
Commercy, Normal School	29.21	742.0	30.02	762.6	83.1	28.4	66	S			1		5cn	S	S	0	0	Cloudy	Mr. Coulet, Director.
Commune de Grénsque*	28.99	735.5	30.10	764.5	85.5	29.7	29	S			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.3	29.99	761.8	82.4	28.0	56	NW			1	2c				0	0	Partly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.79	756.7	29.98	761.4	73.4	23.0	80	S			1		8		WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.66	753.3	29.95	760.8	75.6	24.2	66	SW			1		0			0	0	Clear	Courrier, Director
Lons-Le-Saulnier, N.School	29.11	739.3	30.03	762.7	83.8	28.8	60	WSW			1		0			0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.87	758.8	29.97	761.3	66.9	19.4	81	S			6				S	0.028	0.7		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.77	756.1	30.07	763.8	75.2	24.0	52	WSW			2		4		WSW	0	0		E. Stephan, Director
Mirecourt, Normal School	28.95	735.4	29.94	760.5	80.2	26.8	61	SW			1		2		SW	0	0	Slightly cl'dy	Barbier, Director.
Mont-Louis	26.04	635.9	30.35	770.9	71.6	22.0	66	E	15.0	6.7			4		NE	0	0		J. Cave.
Nismes, Normal School	29.81	757.2	30.00	762.1	91.4	33	29	S			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.69	754.1	72.7	22.6	76	SSW			1		10		SW	0	0		Marie Davy Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.73	577.3			69.3	20.7		W			1		4			0	0	Fair	Gen'l de Nansouty.
Perpignan	29.92	760.0	30.02	762.6	74.8	23.8	69	SE	9.4	4.2			1	NW		0	0	Foggy	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.2			63.1	17.3	68	W			1		5			0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.7	29.98	761.5	77.0	25.0	70	NW			1		10	NW	NW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.58	758.2	29.93	760.3	74.8	23.8	69	SE			1		10		SW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.89	759.3	29.93	760.1	69.8	21.0	68	SSW			1		5	SSW	SSW	0.039	0.98	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.80	757.0	29.97	761.2	75.0	23.9	71	SW			1		10		SSW	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.95	735.2	29.99	761.8	73.4	23	66	SSW			1		0			0	0	Clear	P. Huguet, Director
Toulouse, Observatory	29.27	743.5	29.99	761.8	86.9	30.5	41	SSE			5		1			0	0		M. Juller Mercadier.
Tours	29.77	756.1	29.97	761.1	78.6	25.9	56	W			1		10		W	0	0		Cousin-Marquet.
Versailles, Observatory	29.48	748.9	29.98	761.4	74.5	23.6	69	WSW			10					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.2	29.96	761.0	89.6	32	66	NW			1		2		NE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	80.6	27										0.20	5.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.87	745.9	29.95	760.6	87.8	31.0	49	SE			1		0			0	0	Clear	Ch. André, Director.
Nice			30.04	763.1	82.9	28.3	62	SW			1		2			0	0	Fair	Dr. A. Niepce, Jr.
Zi-Ka-Wei (near Shanghai)	29.34	745.1	29.36	745.7	78.6	25.9	92	WSW	13.9	6.2		ck	9kn	W	W	0.252	6.4	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 6, or 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice, Puy de Dome and Gréasque by the scale 0 to 4; Brest, Marseilles, Mont-Louis, Paris (Montsouris Obs'y), Pic du Midi (P), Perpignan, Saint Maur, Toulouse, Tours and Chartres by the scale 0 to 10; for Nice the remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 9 a. m., except St. Maur at midnight following. Marseilles and Toulouse at 7 a. m., and Lyons at moment of simultaneous observation; the weather in general terms as published, Perpignan occasionally by Vienna symbols. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet. Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1-12)	Clouds. Amount. Up'er (0-10)	Clouds. Amount. Low'r (0-10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.4	30.03	762.8	79.5	26.4	56	S			2		3	S		0	0		Prof. Dr. Hoh.
Berlin	29.80	757.0	29.97	761.1	82.9	28.3	48	SW			1		5					Thunder-storm.	Prof. Dr. Arndt.
Breslau	29.51	749.6	30.04	763.1	82.4	28.0	46	SE			2		3			0	0		Royal University Obs'y.
Carlsruhe	29.54	750.4	29.95	760.7	82.9	28.3	56	E			0		5	NW		0	0		Albert Sens.
Cassel	29.39	746.4	29.99	761.8	81.1	27.3	62	NE			0		8	SW		0.150	3.82		Dr. H. Möhl.
Crefeld	29.81	757.1	29.97	761.2	82.0	27.8	57	SE			2		9			0.04	1.		Director Lose.
Emden			29.95	760.6	70.7	21.5	64	S			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.5	29.99	761.7	82.9	28.3		SSW			1		4			0	0		Physical Society.
Freienwalde on the Oder	29.93	760.2	29.97	761.2	82.2	27.9	52	E			3	c	9k	SW		0	0		Dr. Assmann.
Friedrichshafen	28.60	726.5	29.98	761.4	74.7	23.7	72	W			4		2	WSW		0	0		M. Wilhelm.
Hamburg	29.92	759.9	29.98	761.6	74.1	23.4	75	WSW			3		10ks			0	0	Hazy	Captain F. Hegemann
Kiel	29.93	760 3	29.95	760.7	75.6	24.2	71	SW			2		8			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.0	68.0	20.0	66	W			3		4			0.004	0.1		Prof. E. Luther.
Köslin			30.00	762.1	73.0	22.8		W			4		1			0	0		H. Müller.
Leipsic Observatory	29.58	751.3	29.98	761.4	81.7	27.6	45	NW			1		8			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.98	761.6	30.03	762.8	66.4	19.1	75	WNW			3		7cs						Skalweit.
Munich (München)	28.24	717.2	30.10	764.6	78.4	25.8	54	E			1		5			0.260	6.6		Dr. C. Larg.
Neufahrwasser	30.07	763.8	30.09	764.2	66.3	17.4	76	NE			2		7			0	0		A. Lothes.
Posen	29.73	755.2	30.01	762.2	78.8	26.0	47	NW			1		8			0.063	1.6		Dr. Magener.
Strassburg (in Alsace)	29.45	748.0	29.97	761.3	82.4	28.0	56	NE			2		9	W		0	0		Imp. University Observatory.
Stuttgart	29.04	737.6	29.92	759.9	83.7	28.7	56	N			1		1	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	724.8	29.97	761.1	77.2	25.1	56	Calm	0	0			5ck		SW	0	0	Hazy	T. Hopfner.
Wustrow	29.95	760.8	29.98	761.4	70.7	21.5	61	SE			2		10cs			0	0		E. Schütz, Director
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.9	29.90	759.4	86.0	30.0		NE			3.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.45	748.1	29.51	749.6	81.4	27.4	73	W	21.0	9.4			3	SW		0	0		D. clouds.
Deesa	29.04	737.6	29.50	749.3	90.8	32.7	52	WSW	11.0	4.9			5	E		0	0		D. clouds.
Bombay	29.59	751.7	29.63	752.6	77.6	25.3	94	W	21.0	9.4			10		WSW	6.91	175.5		Overcast.
Poona	27.78	705.6	29.64	752.9	73.0	22.8	88	W					9	W	W	0.10	2.5		D. clouds.
Lahore	28.63	727.3	29.34	745.2	101.2	38.4	42	SE	4.3	1.9			8			0	0		D. clouds.
Belgaum	27.17	690.0	29.73	755.1	68.3	20.2	95	W	10.0	4.5			10		W	0.50	12.7		Drizzling.
Roorkee	28.54	725.0	29.41	747.1	88.5	31.6	75	Calm	1.2	0.5			8			0.03	0.8		
Agra	28.88	733.5	29.43	747.4	88.7	31.5	68	E					8		E	0	0		
Nagpur	28.46	722.8	29.48	748.8	83.4	28.6	78	SW	3.2	1.4			6		NE	0	0		D. clouds.
Lucknow	29.06	738.1	29.43	747.4	90.2	32.3	92	S	1.1	0.5			5	SE		0.27	6.9		D. clouds.
Allahabad	29.14	740.1	29.44	747.8	89.9	33.2	77	Calm	1.0	0.4			10			0	0		Overcast.
Patna	29.25	742.9	29.42	747.4	88.4	31.3	80	Calm	0.4	0.2			8			0	0		D. clouds.
Hazaribagh	27.47	697.8	29.44	747.6	84.8	29.3	71	ESE	6.3	2.8			8			0	0		
Cuttack	29.41	747.0	29.49	749.1	82.0	27.8	82	SSE	1.0	0.4			2			0.05	1.3		D. clouds.
Calcutta (Alipore)	29.70	754.2	29.72	754.8	85.7	29.8	80	E	5.0	2.2			6	SE		0	0		D. clouds.
Goalpara	29.08	738.5	29.46	748.2	84.7	29.3	84	Calm	0.6	0.3			9			0	0		Gloomy.
Chittagong	29.44	747.8	29.54	750.2	81.8	27.7	90	ESE	4.2	1.9			8			0.02	0.5		Raining
Sibsagar	29.20	741.6	29.53	749.9	80.2	26.8	95	E	3.6	1.6			10	W	W	1.43	36.3		D. clouds.
Jubbulpore	28.11	714.0	29.44	747.8	86.0	30.0	69	Calm	1.5	0.7			6		E	0	0		D. cloud.

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.63	752.7	30.08	762.8	83.8	28.8	39	E	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.51	749.5	30.00	762.1	85.8	29.9	42	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.91	759.8	30.02	762.5	83.1	28.4	43	SE	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	29.98	761.5	83.5	28.6	38	SW	2.5	1.1	.....	.....	1	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	757.9	30.02	762.6	77.4	25.2	60	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.16	715.3	29.99	761.8	79.2	26.2	21	NW	.....	.....	4	.....	0?	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.97	761.3	30.02	762.5	76.8	24.9	67	N	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.4	29.99	761.8	89.6	32.0	28	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.2	30.01	762.3	77.0	25.0	64	WNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.84	757.9	30.01	762.2	85.5	29.7	41	SW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.74	755.3	29.98	761.5	78.	25.7	50	ENE	10.5	4.7	.....	.....	3	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	29.11	739.4	29.95	760.7	86.0	30.0	62	NE	0 7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.83	757.7	30.02	762.4	79.8	26.3	63	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.3	30.02	762.6	77.5	25.3	58	NE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.91	759.7	29.98	761.5	84 9	29.4	39	E	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.3	30.06	763.4	81.1	27.3	39	SW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 3, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 378.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.89	759.2	80.6	27.0	82	WSW	1.7	0.8	.....	.....	7ck;s;cs	.....	S	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.63	752.6	29.83	757 7	80.7	27.1	73	SSE	7 3	3.2	.....	.....	0	.....	.....	0.120	3.05	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.92	759.9	29.98	761.5	76 5	24.7	88	N	2.0	0.9	.....	4c;ck	s	.....	.....	0	0	Fair	The Staff.
Wakayama	29.88	758.9	29.93	760.2	79.5	26.4	73	S	3.4	1.5	.....	.....	5ck;s	ENE	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.05	636.2	30.06	763.6	57.2	14.0	70	E	.....	.....	1	.....	9	.....	E	0.20	5.2	Very cloudy	Prof. L. Pereа.
Leon	24.42	620.2	30.08	764.1	60.4	15.8	75	E	.....	.....	4	7c	0	NE	.....	0.07	1.7	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.06	588.6	30.04	763.1	55.4	13.0	81	Calm	0	0	.....	1c	8k	.....	NE	0.06	1.5	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	59.7	15.3	71	NW	.....	.....	1	3cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.91	759.7	29.52	760.0	74.3	23.5	92	W	.....	.....	1	0	8	.....	S	1.20	30.5	Threatening	Prof. M. M. Chàzaro.
San Luis Potosi	24.29	616.9	30.28	769.2	57.0	13.9	76	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.68	573.4	30.17	766.4	53.8	12.1	79	E	.....	.....	3	2c	0	E	.....	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.37	593.7	30.14	765.3	49.6	9.8	78	NW	0.9	0 4	.....	1s	0	SE	.....	0.13	3.3	Clear	Prof. P. Spuna.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.59	751.5	29.87	758.8	77 5	25.3	89	SE	.....	.....	1	5c	1k	.....	.....	Inap.	Inap.	½ clouded	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.83 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.7	29.95	760.7	71.6	22.0	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.91	759.6	29.96	761.0	74.1	23.4	.....	SSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.95	760.6	29.95	760.6	67.8	19.9	.....	SW	.....	.....	2	.....	.....	.....	.....	0.016	0.4	.....	
Hellevoetsluis	29.95	760.7	29.95	760.7	75.2	24.0	74	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Utrecht	29.93	760.2	29.98	761.4	75.7	24.3	62	SSW	.....	.....	2	.....	8	.....	.....	0.031	0.8	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.89	759.1	29.94	760.5	62.6	17.0	88	NNW	2.5	1.1	.....	.....	10	.....	.....	0.205	5.2	Raining	
Brönö	29.92	760.0	29.96	761.0	60.6	27.0	37	SSW	9	4	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.89	759.3	30.04	762.9	72.9	22.7	61	E	7	3	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.98	761.4	30.02	762.5	67.6	19.8	54	NE	7	3	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.84	757.9	30.02	762.6	74.8	23.8	78	N	9.8	4.4	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.1	29.56	750.7	88.5	31.4	26	W	3.8	1.7	.....	.....	3	W	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.98	761.4	30.07	763.6	73.0	22.8	68	SW	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.03	762.7	78.3	25.7	61	NNW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.17?	766.3?	30.09?	762.0?	81.0	27.2	59	WNW	8.1	3.6	.....	.....	5	.....	.....	0.059	1.5	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias			.....	A. G. da Silva Costa, Com'd't.
D. Fernando			.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira			.....	J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello			.....	H. de C. C. e Athayde.
Quanza, Capt. A. J. de Mattos			.....	J.T.d'Oliveria, Com'd't.
Rio Duro			.....	
Rio Lima, Capt. S. C. da Silva Costa			.....	
St. Vincent, Cape Verd Island	1	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira			.....	H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello			.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	3	SW	D. clouds	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.61	752.1	30.01	762.3	75.6	24.2	49	W	2	1	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.63	752.5	30.04	762.9	64.2	17.9	77	SE	4	2	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.35	758.1	30.08	764.1	68.9	20.5	70	SE	7	3	.....	.....	8k;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.13	765.3	30.15	765.7	73.2	22.9	46	ESE	11	5	.....	.....	3ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.29	743.9	29.89	759.2	74.7	23.7	62	N	9	4	.....	.....	5cks;	ckn]	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.9	29.91	759.7	77.4	25.2	61	NNW	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	758.3	29.87	758.8	73.9	23.3	79	W	2	1	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.63	752.6	30.16	766.1	70.9	21.6	43	SSE	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.55	750.6	29.75	755.7	69.8	21.0	74	SSE	25	11	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.23	767.8	30.25	768.3	69.8	21.0	60	WNW	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.39	721.1	29.71	754.5	91.6	33.1	33	NW	31	14	.....	.....	1s	.....	.....	.....	.....	Heavy clouds	Physical Observatory.
Astrakhan	28.96	761.0	29.88	758.9	81.0	27.8	55	NNE	9	4	.....	.....	8n;s	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.66	753.3	30.11	764.8	72.1	22.3	30	N	2	1	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.87	758.6	30.13	765.2	71.2	21.8	39	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.99	736.3	29.95	760.6	53.6	12.0	44	NNW	27	12	.....	.....	7ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.55	750.6	29.77	756.2	90.1	32.3	29	NNE	7	3	.....	.....	1s	.....	.....	.....	.....	.....	
Tashkend	28.17	715.5	29.62	752.3	89.6	32.0	29	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.94	735.1	29.42	747.3	63.6	17.2	66	SE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.27	743.6	29.54	750.4	75.6	24.2	61	SE	16	7	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thunder-storm	
Peking (China)	29.41	746.9	29.55	750.5	73.9	23.3	78	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rain & fog	
Vladivostock	29.69	754.1	29.79	756.6	68.7	20.4	96	SE	18	8	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.84	758.0	29.93	760.2	62.8	17.1	88	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.8	77.0	25	70	ESE	2.7	1.19	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.94	760.4	29.99	761.8	82.4	28.0	72	N	1.9	0.87	.....	3	2	N	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.1	.....	.....	84.6	29.2	39	S	1.3	0.57	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.78	705.6	29.81	757.1	98.8	37.1	17	SW	13.4	6.00	.....	1	2	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.78	756.5	29.93	760.1	91.8	33.2	51	ENE	5.2	2.33	.....	2	3	W	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.08	738.7	29.95	760.8	70.5	21.4	81	SSW	9.8	4.4	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.2	29.99	761.8	81.2	27.3	81	SE	5.2	2.3	.....	5c;cp	1k	S	SE	0.096	0.2	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.71	754.7	29.77	756.1	82.4	28.0	83	SW	18.6	8.3	.....	4c	6ks	E	W	2.330	59.2	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.7	30.01	762.2	76.6	24.8	74	WNW	8.6	3.9	.....	2	2	SW	SW	0	0	.....	Capt. C. Pulazou, R. N., Dir.
San Juan de Porto Rico, W. I	29.89	759.2	29.98	761.5	74.5	23.6	87	SE	0	0	.....	.....	10n	SE	SE	1.535	39.00	Raining	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature, Inches.	Barometer. Corrected for instrum'tal error and temperature, Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.19	766.7	30.23	767.7	73.4	23.0	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.11	764.7	30.16	766.0	72.7	22.6	57	SSW	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	30.05	763.3	30.10	764.6	77.0	25.0	73	ESE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.90	759.4	30.08	763.9	69.4	20.8	65	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.93	760.3	29.99	761.8	65.8	18.8	77	NNE	.....	.....	6	.....	7	.....	.....	0.043	1.1	.....	
Sub-Series.																			
Upsala	30.00	762.1	30.09	764.3	69.3	20.7	61	NE	8.9	4.0	.....	.....	9	.....	ESE	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 55° 30', E. 4° 16'	30.00	761.9	30.01	762.2	60.6	15.9	.....	E	.....	.....	1	.....	.....	.....	.....	.....	.....	Foggy	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	29.97	761.3	77.9	25.5	56	N	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.42	721.9	29.97	761.3	81.1	27.3	55	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −1.1 mm.; Thermometer, +3.0 Cent.; Relative Humidity, +3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.98	761.4	78.3	25.7	69	NE	12	5.5	.....	.....	4	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.8	79.7	26.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.62	752.3	29.73	755.2	90.0	32.2	58	SW	.....	.....	2	.....	1k	.....	SW	0	0	D clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.00	763.5	30.12	765.0	68	20.0	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.06	763.5	30.10	764.5	67	19.4	92	S	3	1.3	.....	5cs	2s	.....	W	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.92	760.0	30.11	764.8	68.0	20.0	69	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.94	760.5	30.10	764.5	60	15.6	88	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.06	763.5	30.08	764.0	55	12.8	90	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.15	765.8	69.4	20.8	78	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.06	738.1	29.86	758.4	60	15.6	88	N	5	2.2	.....	5k	5ks	N	N	0	0	Cloudy	James Stewart.
Granton, Ontario	29.05	737.9	30.10	764.5	70	21.1	95	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.95	761.5	30.09	764.3	68	20.0	92	SW	1	0.4	.....	.....	10ks	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.14	765.5	66.7	19.3	85	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.83	757.7	30.15	765.8	70	21.1	85	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.93	760.2	29.96	761.0	65.0	18.3	89	SW	4	1.8	.....	3c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.94	760.5	30.13	765.3	70	21.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.43	747.5	30.10	764.5	65	18.3	92	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.40	746.7	30.13	765 3	68.9	20.5	69	W	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.45	748.0	30.13	765.3	67	19.4	89	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.99	761.7	30.04	763.0	65.6	18.7	.....	NW	6	2.7	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.49	749.0	30.12	765.0	64	17.8	94	S	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.83	757.7	30.15	765.8	62	16.7	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.6	30.12	765.0	60	15.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	58	14.4	96	Calm	.....	.....	0	0	5n	.....	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.96	761.0	30.12	765.0	59	15.0	100	N	1	0.4	.....	.....	Fog	.....	.....	0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.40	746.7	30.08	764.0	72	22.2	75	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	K Stewart.
Stayner, Ontario	29.37	746.0	30.13	765.3	60	15.6	44	NW	3	1.3	.....	2k	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.7	30.07	763.8	70	21.1	74	N	4	1.8	.....	2c	0	.....	.....	0.01	0.3	Clear	T. C. Hill.
*Toronto, Ontario	29.77	756.1	30.15	765.8	68	20.0	78	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Smoky	Magnetic Observatory.
Windsor, N. S	30.05	764.0	30.12	765.0	67.0	19.4	95	N	0	0	.....	.....	10ks	.....	.....	0.47	11.9	Fair	Prof. John E. Oram.
Woodstock	29.09	738.9	30.11	764.8	69.6	20.9	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.84	757.9	30.07	763.8	65.0	18.3	89	SW	.....	.....	.....	.....	10	.....	.....	0.02	0.5	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft. or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.18	766.6	67	19.4	74	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.41	747.0	30.03	762.7	69	20.6	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	46	7.8	100	W	17	7.6	.....	.....	10s	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.98	736.1	30.08	764.0	71	21.7	95	S	5	2.2	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Atlantic City, New Jersey	30.14	765.5	30.15	765.8	70	21.1	95	SE	6	2.7	.....	.....	10m	.....	Calm	0.30	7.6	Light rain	
Augusta, Georgia	29.98	761.5	30.17	766.3	74	23.3	86	SE	2	0.9	.....	5ck	2s	NW	Calm	0.40	10.2	Fair	
Baltimore, Maryland	30.12	765.0	30.17	766.3	75	23.9	81	SW	2	0.9	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Barnegat, New Jersey	30.12	765.0	30.14	765.5	72	22.2	95	S	4	1.8	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Bismarck, Dakota	28.02	711.7	29.87	758.7	69	20.6	85	E	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.56	725.4	29.83	757.7	69	20.6	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	60	15.6	55	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.99	761.7	30.13	765 3	73	22.8	65	N	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Brackettville, Texas	28.86	733.0	29.84	757.9	77	25.0	49	NE	4	1.8	.....	0	5s	Calm	0	0	0	Fair	
Breckenridge, Minnesota	28.79	731.3	29.72	754.9	69	20.6	95	E	6	2.7	.....	.....	10ks	.....	W	0.08	2.0	Cloudy.	
Brownsville, Texas	29.88	758.9	29.92	760.0	78	25.6	86	Calm	0	0	.....	5k	0	Calm	.....	0.55	14.0	Fair	
Buffalo, New York	29.44	747.8	30.11	764.8	72	22.2	71	E	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	90	32.2	57	S	.....	.....	1	5cs	0	S	.....	Inap	Inap.	Fair	
Burlington, Vermont	29.88	758.9	30.16	766.1	69	20.6	65	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.73	755.1	30.11	764.8	76	24.4	69	NE	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Campo, California	27.33	694.2	29.90	759 4	64	17.8	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.21	767.3	81	27.2	87	SW	10	4.5	.....	1cs	1ks	Calm	SW	0	0	Fair	
Cape Henry, Virginia	30.18	766.6	30.19	766.8	74	23.3	91	SW	3	1.3	.....	0	8ks	.....	SW	3.31	84.1	Cloudy	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	82	27.8	83	SW	10	4.5	.....	2k	0	SW	.....	0	0	Fair	
Cape May, New Jersey	30.10	764 5	30.13	765 3	71	21.7	90	NE	10	4.5	.....	.....	10n	.....	NE	1.52	38.6	Light rain	
Castroville, Texas	29.20	741.7	29.88	758.9	77	25.0	82	Calm	0	0	.....	0	0	.....	.....	0.64	16.3	Clear	
Charleston, South Carolina	30.09	764.3	30.14	765.5	84	28.9	75	S	9	4.0	.....	0	8ks	.....	W	0.40	10.2	Cloudy	
Charlotte, North Carolina	29.33	745.0	30.12	765.0	71	21.7	95	Calm	0	0	.....	.....	10s	.....	SE	4.04	102.6	Cloudy	
Chattanooga, Tennessee	29.34	745.2	30.12	765.0	72	22.2	90	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	70	21.1	38	NW	20	8.9	.....	0	8s	.....	NW	0	0	Cloudy	
Chicago, Illinois	29.42	747.3	30.08	764.0	73	22.8	59	SW	1	0.4	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.49	749.0	30.11	764.8	74	23.3	72	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.42	747.3	30.12	765.0	70	21.1	70	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.21	716.5	29.80	756.9	75	23.9	68	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.29	744.0	30.09	764.3	78	25.6	61	E	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Concho, Texas	28.12	714.2	29.72	754.9	75	23.9	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	29.98	761.5	78	25.6	73	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.45	748.0	30.06	763.5	70	21.1	75	SE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Deadwood, Dakota	25.33	643.4	.....	.....	69	20.6	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.85	732.8	29.96	761.0	80	26.7	66	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.23	742.4	29.98	761.5	77	25.0	77	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.82	630.4	30.04	763.0	67	19.4	46	S	4	1.8	.....	2ck	2s	Calm	Calm	0.09	2.3	Fair	
Des Moines, Iowa	29.14	740.1	29.98	761.5	70	21.1	70	SW	3	1.3	.....	5k	0	NW	.....	0	0	Fair	
Detroit, Michigan	29.45	748.0	30.10	764.5	70	21.1	80	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.41	696.2	29.58	751.3	73	22.8	73	S	8	3.6	.....	1ck	0	W	.....	0	0	Clear	
Dubuque, Iowa	29.35	746.2	30.06	763.5	70	21.1	70	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.19	741.4	29.82	757.4	73	22.8	63	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.18	741.1	29.88	758.9	77	25.0	86	E	4	1.8	.....	.....	10s	.....	E	0.14	3.6	Cloudy	
Eastport, Maine	30.04	763.0	30.11	764.8	56	13.3	87	N	5	2.2	.....	5c	Fog	Calm	N	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	87	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap.	Clear	
El Paso, Texas	26.31	668.3	.....	.....	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.43	747.6	30.11	764.8	74	23.3	68	SE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.35	745.6	29.97	761.2	73	22.8	67	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	81	27.2	38	Calm	0	0	.....	2ck	5s	Calm	Calm	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.83	706.9	.....	.....	65	18.3	83	E	4	1.8	.....	8cs	0	E	.....	0	0	Cloudy	
Fort Davis, Texas	25.28	642.1	30.24	768.1	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.49	749.0	30.0	762.0	80	26.7	62	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	74	23.3	51	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.76	730.5	29.99	761.7	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.28	692.9	.....	.....	71	21.7	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.77	705.4	29.63	752.6	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.81	731.8	29.87	758.7	71	21.7	75	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2	.....	.....	64	17.8	89	NE	5	2.2	.....	.....	8n	.....	E	0.01	0.3	Light rain	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.27	718.0	29.75	755.6	78	25.6	73	Calm	0	0	.....	0	2ks	.....	Calm	0.25	6.3	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	78	25.6	82	NE	9	4.0	.....	Haze	5ks	.....	Calm	0.48	12.2	Fair	
Graham, Texas	28.92	734.6	29.94	760.2	71	21.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.43	747.5	30.05	763.3	75	23.9	77	S	9	4.0	.....	2k	0	S	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.04	737.6	29.94	760 5	72	22.2	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.34	745.2	30.10	764.5	67	19.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.96	761.0	29.98	761.5	80	26.7	78	E	8	3.6	.....	1k	0	S	.....	Inap.	Inap.	Clear	
Jacksboro, Texas	28.87	733.3	29.94	760.5	79	26.1	68	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.09	764.3	30.11	764.8	81	27.2	76	E	3	1.3	.....	2cs	2s	Calm	E	0.94	23.9	Fair	
Keokuk, Iowa	29.43	747.5	30.02	762 5	71	21.7	62	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	81	27.2	83	SE	8	3.6	.....	.....	10ks	.....	SE	0.06	1.5	Cloudy	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	78	25.6	86	W	12	5.4	.....	0	8s	.....	W	0.04	1.0	Fair	
Knoxville, Tennessee	29.16	740.7	30.14	765.5	67.7	19.7	93	NE	2	0.9	.....	8ck	2ks	W	SE	0	0	Cloudy	
La Crosse, Wisconsin	29.28	743.7	29.98	761.5	70	21.1	75	S	10	4.5	.....	2k	0	Calm	.....	0	0	Clear	
La Mesilla, New Mexico	26.09	662 7	30.24	768.1	66	18.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.56	750.8	29.88	758 9	80	26.7	59	Calm	0	0	.....	5k	0	SE	.....	Inap.	Inap.	Fair	
Leavenworth, Kansas	29.19	741.4	30.00	762.0	70	21.1	80	N	1	0.4	.....	.....	10ks	.....	W	0	0	Cloudy	
Little Rock, Arkansas	29.74	755.4	30.08	764.0	74	23.3	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.50	749.3	29.83	757.7	61.0	16.1	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.55	750.6	30.09	764.3	72	22.2	76	N	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.51	749.5	30.18	766.6	71	21.7	90	SW	2	0.9	.....	.....	10n	.....	SW	0.21	5.3	Light rain	
Madison, Wisconsin	29.09	738.9	30.04	763.0	69	20.6	80	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.22	742.2	29.88	758.9	76	24.4	49	SW	16	7.2	.....	5c	0	SW	.....	0	0	Fair	
Mason, Texas	28.39	721.1	30.10	764.5	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0.56	14.2	Clear	
Memphis, Tennessee	29.73	755.1	30.08	763.5	76	24.4	82	NE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.35	745 5	30.05	763.3	70	21.1	75	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	30.00	762.0	30.04	763.0	77	25.0	91	NE	4	1.8	.....	.....	10s;ks	.....	S;SE	0.23	5.8	Cloudy	
Montgomery, Alabama	29.85	758.2	30.05	764.0	74	23.3	95	E	6	2.7	.....	4k	5ks	S	S	0.01	0.3	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.18	741.1	30.14	765.5	71	21.7	85	Calm	0	0		0	Fog		Calm	0	0	Fair	
Mt. Washington, N. H.	24.09	611.9	30.45	773.4	50	10.0	86	Calm	0	0		10k	0	Calm		0	0	Cloudy	
Nashville, Tennessee	29.58	751.3	30.09	764.3	78	25.6	73	NE	1	0.4		1cs	Haze	Calm		0	0	Clear	
New Haven, Connecticut	30.04	763.0	30.10	766.1	73	22.8	63	N	7	3.1		5cs	Haze	Calm	Calm	0	0	Fair	
New London, Connecticut	30.10	764.5	30.15	765.8	75	23.9	60	NW	1	0.4		1ck	Haze	W		0	0	Dense haze.	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	78	25.6	82	NE	8	3.6			10n		NE	0.06	1.5	Light rain	
Newport, Rhode Island	30.08	764.0	30.13	765.3	74	23.3	76	SW	2	0.9		5ck	2s	NW	Calm	0	0	Fair	
New York, New York	29.99	761.7	30.16	766.1	75	23.9	48	NE	8	3.6		5cs	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.15	765.8	30.20	767.1	76	24.4	91	W	4	1.8		5ck	5s	E	W	1.10	27.9	Cloudy	
North Platte, Nebraska	27.01	686.0	29.44	747.8	70	21.1	80	S	12	5.4		8k	2s	SW	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.10	764.5	30.14	765.5	44.5	6.9	96	SW	2	0.9		2cs	0	W		0	0	Clear	
Omaha, Nebraska	28.80	731.5	29.83	757.7	78	25.6	65	SE	12	5.4		0	Haze		Calm	0	0	Clear	
Oswego, New York	29.85	758.2	30.17	766.3	65	18.3	84	S	6	2.7		Haze	0	Calm		0	0	Clear	
Pembina, Dakota	28.96	735.6	29.76	755.9	59	15.0	94	NW	8	3.6			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	30.10	764.5	30.14	765.5	74	23.3	90	SW	4	1.8			10s;fg		Calm	0	0	Cloudy	
Phœnix, Arizona	28.62	726.9	30.29	769.4	87	30.6	45	NE	3	1.3			10ks		Calm	0	0	Cloudy	
Pike's Peak, Colorado	18.07	459.0	30.28	769.1	41	5.0	57	SW	12	5.4		2k	5s	SW	SW	0	0	Cloudy	
Pilot Point, Texas	29.17	740.7	29.95	760.7	82	27.8	83	SE	1	0.4		0	0			0	0	Clear	
Ploche, Nevada					64	17.8	63	S	2	0.9		0	1s		Calm	0.03	0.8	Clear	
Pittsburg, Pennsylvania	29.35	745.5	30.14	765.5	66	18.9	95	NE	1	0.4			Fog		Calm	0	0	Foggy	
Port Huron, Michigan	29.46	748.3	30.10	764.5	69	20.6	80	SW	3	1.3		0	Haze			0	0	Clear	
Portland, Maine	30.09	764.3	30.13	765.3	72	22.2	58	N	8	3.6		1k	0	Calm		0	0	Clear	
Portland, Oregon	30.14	765.5	30.21	767.3	50.0	10.0	90	N	2	0.9		0	0			0	0	Clear	
Prescott, Arizona	24.80	629.9	30.16	766.1	66	18.9	74	W	2	0.9		5ck	0	W		0.11	2.8	Fair	
Punta Rassa, Florida	29.98	761.5	30.00	762.0	75	23.9	86	SE	17	7.6		5ck	5s	Calm	SE	0.30	7.6	Cloudy	
Red Bluff, California	29.47	748.5	29.81	757.2	77	25.0	28	N	5	2.2		0	0			0	0	Clear	
Rio Grande City, Texas	29.75	755.6	29.90	761.0	80	26.7	78	E	2	0.9		0	0			0	0	Clear	
Rochester, New York	29.54	750.3	30.14	765.5	69	20.6	70	SW	6	2.7		0	0			0	0	Clear	
Roseburg, Oregon	29.60	751.8	30.18	766.6	51	10.6	79	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.72	754.9	29.80	756.9	67	19.4	69	S	2	0.9		0	0			0	0	Clear	
St. Louis, Missouri	29.53	750.0	30.09	764.3	70	21.1	66	SE	1	0.4		0	Sm'e			0	0	Clear	
St. Marks, Florida	30.06	763.5	30.08	764.0	76	24.4	86	SE	5	3.6		2k	0	Calm		0	0	Fair	
St. Paul, Minnesota	29.08	738.6	29.86	758.4	69	20.6	70	S	11	4.9		5ck	0	SW		0	0	Fair	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	71	21.7	49	E	4	1.8		7k	0	W		Inap.	Inap.	Fair	
San Antonio, Texas	29.29	744.0	29.85	758.2	75	23.9	78	Calm	0	0		0	0			0.06	1.5	Clear	
San Diego, California	29.78	756.4	29.85	758.2	63	17.2	89	N	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.48	748.8	30.12	765.0	73	22.8	72	NE	2	0.9		0	Sm'e		Calm	0	0	Clear	
Sandy Hook, New Jersey	30.13	765.3	30.16	766.1	73	22.8	72	N	13	5.8		5c	2s	Calm	Calm	0	0	Fair	
San Francisco, California	29.78	756.4	29.84	757.9	55	12.8	87	W	1	0.4		0	0			0	0	Clear	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	58	14.4	64	Calm	0	0		0	0			0	0	Clear	
Savannah, Georgia	30.08	764.0	30.16	766.1	79	26.1	82	Calm	0	0		2ck	0	Calm		0.19	4.8	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	76	24.4	86	E	2	0.9		Haze	0	Calm		0	0	Clear	
Silver City, New Mexico																			
Smithville, North Carolina	30.18	766.6	30.22	767.6	81	27.2	91	S	8	3.6		0	5ks		S	0	0	Fair	
Socorro, New Mexico	25.48	647.2	29.54	750.3	70	21.1	53	Calm	0	0		0	1s		Calm	0	0	Clear	
Springfield, Ill	29.45	748.0	30.11	764.8	72	22.2	58	SE	5	2.2		0	0			0	0	Clear	
Springfield, Massachusetts	30.03	762.7	30.16	766.1	72	22.2	71	N	2	0.9		8cs	0	W		0	0	Cloudy	
Stockton, Texas	26.86	682.2	29.86	758.4	76	24.4	2	Calm	0	0		0	0			Inap	Inap.	Clear	
Thatcher's Island, Mass.	30.13	765.3	30.18	766.6	67	19.4	95	N	12	5.4		5k	Sm'e	W		0	0	Fair	
Toledo, Ohio,	29.43	747.5	30.09	764.3	71	21.7	71	SW	1	0.4		1k	0	W		0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	82	27.8	62	Calm	0	0		2c	0	Calm		0	0	Fair	
Umatilla, Oregon	29.66	753.4	30.13	765.3	63.0	17.2	57	W	4	1.8		0	0			0	0	Clear	
Uvalde, Texas	29.05	737.9	29.83	757.7	80	26.7	70	E	2	0.9		k	0	SE		Inap.	Inap.	Fair	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	78	25.6	85	SE	4	1.8		0	1s		SE	0	0	Clear	
Virginia City, Montana	24.32	617.7	29.80	756.9	56	13.3	51	SE	8	3.6		0	0			0.01	0.3	Clear	
Visalia, California	29.41	747.0	29.77	756.1	68	20.0	56	S	1	0.4		0	0			0	0	Clear	
Washington, D. C.	30.06	763.5	30.16	766.1	74	23.3	86	W	1	0.4			10ks;sm'e		W	0.10	2.5	Cloudy	
Wickenburg, Arizona					80	26.7	59	S			1	0	5ks		Calm	0	0	Fair	
Wilmington, N. Carolina	30.11	764.8	30.18	766.6	81	27.2	78	SW	6	2.7		1c	0	Calm		0	0	Clear	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	53	11.7	25	SW	9	4.0		0	0			Inap.	Inap.	Clear	
Wood's Holl, Mass.	30.08	764.0	30.12	765.0	72	22.2	90	SW	8	3.6		5ck	2s	SW	SW	0	0	Cloudy	
Yankton, Dakota	28.61	726.7	29.83	757.7	70	21.1	85	Calm	0	0		2r	0	Calm		0	0	Fair	
Yuma, Arizona	29.60	751.8	29.76	755.9	87	30.6	45	S	1	0.4		2c	5s	Calm	Calm	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	82	27.8	78	SE	2.4	1.1		8c	0	Calm		0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.21	640.3			66.0	18.9	82	Calm			0		10s;ks			0.03	0.8		Thomas Herran.
Navassa, W. I.	29.86	758.4	29.94	760.5	83	28.3		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	81	27.2	83	NE			2	4c	5k	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,318.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.20‡	767.1‡			82	27.8	91	°E	15	6.7			10		E					Showery	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡			77	25.0	86	Calm			0	4c			SW	0	0			Fair	
Adams, Mare I'd., Navy Yard, Cal.	29.86‡	758.4‡			60	15.6	94	SSW			2		0							Clear	
Alliance, Copenhagen, Denmark	30.03‡	762.7‡			71	21.7	66	SE			2–3		9		SE					Raining	
Ashuelot, Yokohama, Japan											2		2					Smooth		Fair	
Colorado, New York, N. Y.	30.13‡	765.3‡			74	23.3	59	NW	1	0.4			8			0	0			Cloudy	
Constitution, Navy Yard, Brooklyn, N.Y.	30.16‡	766.1‡			73	22.8	76	NNE			2		9		Calm					Hazy	
Enterprise, Cronstadt, Russia	30.09‡	764.3‡			69	20.6	65	E			2		2		E	0	0			Clear	
Essex, Montevideo, Uruguay	30.18‡	766.6‡			54	12.2	87	E			4		2					Smooth		Clear	
Franklin, Norfolk, Va.	30.16‡	766.1‡			75	23.9	90	NW	4.8	2.1			10		Calm	1.00	25.4			Cloudy	
Hartford, S. 27° 08′, W. 41° 28′	30.19‡	766.8‡			78	25.6	78	NNW			4		2		N	0	0	Mod'ate	N	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.84‡	757.9‡			64	17.8	78	SW	6	2.7			0?		SW					Clear	
Kearsarge, Charlottetown, Prince Edward Island	30.09‡	764.3‡			66	18.9	94	Calm			0		10							Foggy	
Michigan, Chicago, Ill.	30.03‡	762.7‡			71	21.7	75	SW			2		0							Hazy	
Monocacy, Shanghai, China	29.32‡	744.7‡			80	26.7	94	WSW			3–5		10		WSW					Rainy	
Monongahela, Yokohama, Japan	30.00‡	762.0‡			81	27.2	96	W			1–2	c	ks			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.15‡	765.8‡			83	28.3	75	S	9	4.0			2		S	0.02	0.5			Fair	
Onward, Callao, Peru	30.01‡	762.2‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.34‡	745.2‡			79	26.1	95	W			5		10		W					Overcast	
Passaic, Washington, D. C.					75	23.9	90	SW			1		5		NE					Fair	
Pensacola, Callao, Peru	30.01‡	762.2‡			61	16.1	88	ENE	1	0.4			10					Smooth		Cloudy	
Portsmouth, Boston, Mass.	30.13‡	765.3‡			69	20.6	60	Calm			0		2			0	0			Clear	
Powhatan, N. 36° 30′, W 75° 03′	30.16‡	766.6‡			77	25.0	91	SW			3		5		SW	0	0	Smooth		Fair	
Quinnebaug, Munychia, Greece	29.91‡	759.7‡			84	28.9	37	NNE			3		0							Clear	
Ranger, Ningpo, China	29.44‡	747.8‡			84	28.9	87	WSW			1		5					Smooth		Clear	
Richmond, Yokohama, Japan	29.98‡	761.5‡			81	27.2	87	SSW			1		2		S			Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.95‡	760.7‡			76	24.4	100	W			1		2		S	0	0			Fair	
Santee, Annapolis, Md.	30.16‡	766.1‡			73	22.8	90	WNW			1		10			0.09	2.3			Hazy	
Saratoga, New London, Conn.	30.14‡	765.6‡			72	22.2	95	WNW			1		2		N	0	0			D. clouds	
St. Louis, League Island, Pa	30.12‡	765.0‡			74	23.3	95	Calm	0	0			10		Calm	0	0			Misty	
Trenton, Copenhagen, Denmark	30.03‡	762.7‡			69	20.6	75	SSE			0–1		5		E	0	0	Smooth		Hazy	
Tuscarora, Off Mare Isl. Navy Yard, Cal	29.85‡	758.2‡			63	17.2	42	WSW			2		0			0	0	Smooth		Blue sky	
Vandalia, N. 36° 42′, W. 74° 53′	30.18‡	766.6‡			77	25.0	91	W			3		2		W			Mod'ate	E	Fair	
Wabash, Boston, Mass.	30.13‡	765.3‡			71	21.7	95	N	2	0.9			8			0	0			Cloudy	
Wyoming, Phalerum Bay, Greece	29.92‡	760.0‡			53	28.3	40	NE			2–5		0					Smooth	NE	Clear	
Wachusett, N. 28° 46′, W. 88° 45′	30.02‡	762.5‡			83	28.3	87	NE			2		5		NE					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury	*																		Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Connolly.
S. S. Georgia																			F.W.Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 34° 44′, E. 170° 53′		30.19‡	766.8‡				NW			1		0				Light	NW	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kenndy
S. S. Baltic																			Capt. H. erry.
S. S. Britannic																			Capt. B. eadell.
S. S. Celtic																			Capt. C. W Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 39° 20′, E 155° 14′ †		29.93‡	760.2‡	68	20.0	94	N			3		Fog			0	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 39° 46′, W. 128° 54′ †		30.20‡	767.1‡	59	15.0	100	NW			6		ck		NW		Rough	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 43° 21′, W. 43° 24′		30.29‡	767.8‡	66.0	18.9	86	SSW			2		8		SSW		Smooth	Var.	Cloudy	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 39° 44′, W. 68° 36′		30.18‡	766.0‡				SW			1		8		W		3	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. †Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.09‡	764.3‡	80	26.7	91	SW			1		8		SW	0			Fair	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

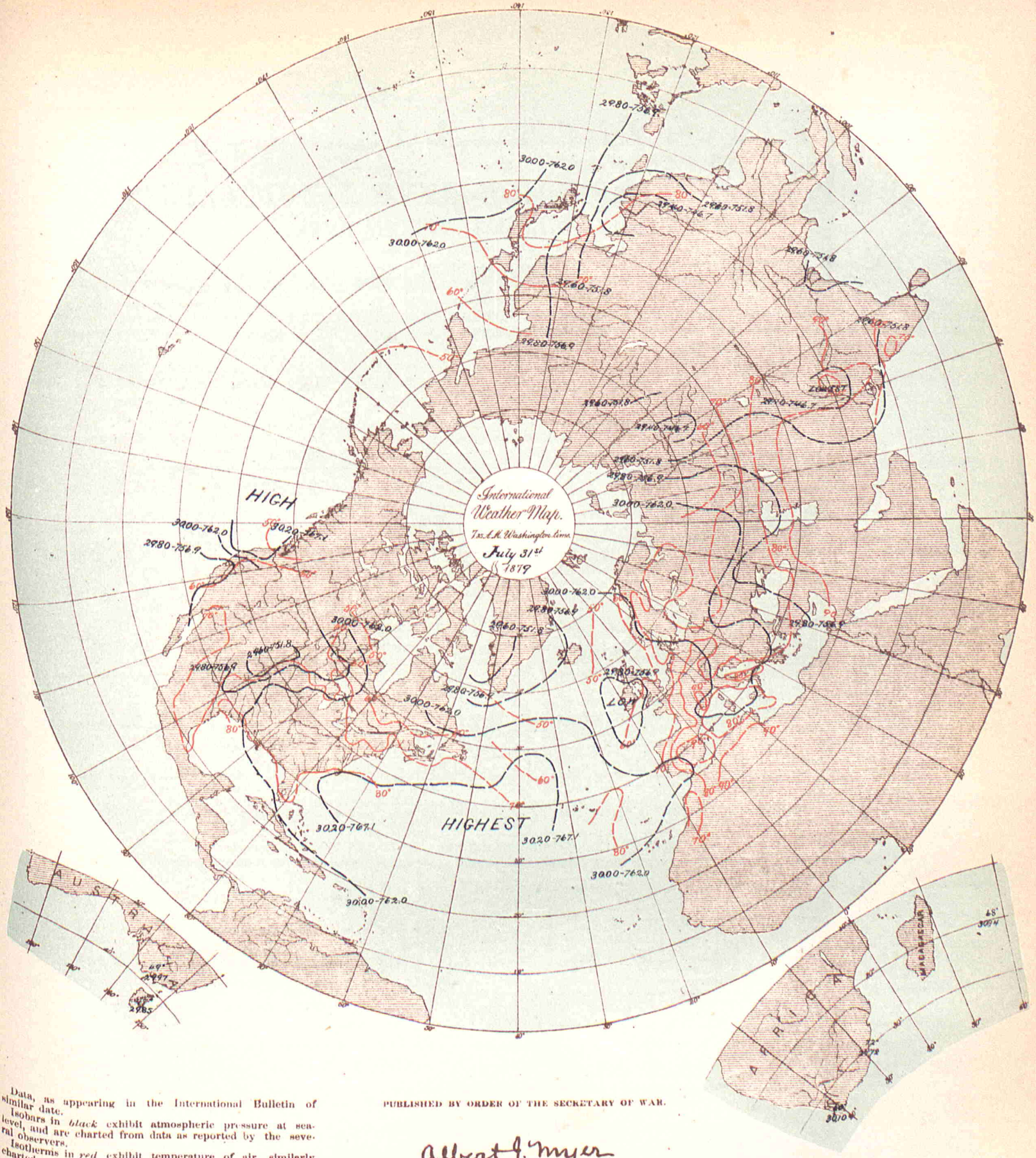
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.), Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 1, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	29.96	761.0	68.9	20.5	87	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.93	760.3	80.2	26.8	65	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.92	759.9	80.6	27.0	69	NNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.97	761.3	78.8	26.0	85	NE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.09	764.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.96	761.0	96.3	35.7	17	NNW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.00	762.0	90.0	32.2	34	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	78.4	25.8	38	SSW	.....	.....	5	.....	2	.....	.....	Inap.	Inap.	Fair	Brugniaux.
Laghouat	.....	.....	30.01	762.2	91.8	33.2	43	W	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
Biskra	.....	.....	29.95	760.7	101.1	38.4	27	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.44	747.8	29.96	761.0	84.4	29.1	41	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	741.8	29.93	760.3	79.8	26.4	50	W	7.4	3 3	.....	.....	5	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.06	738.1	29.89	759.2	80.6	27.0	54	S	.....	.....	1	.....	9cks	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.76	730.5	29.95	760.6	77.9	25.5	60	SW	.....	.....	2	.....	2	.....	.....	0.008	0.2	.....	Andreas Rospini.
Hermannstadt	28.52	724.5	29.86	758.5	82.4	28.0	46	NNE	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.64	727.5	29.90	759.5	82.4	28.0	68	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.96	735 6	29.91	759.8	72.0	22.2	74	S	.....	.....	1	.....	3	.....	.....	0.039	1.0	.....	Dr. T. Stanecki.
Pola	29.86	758.4	29.97	761.1	82.4	28.0	63	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29 55	750.5	30.00	761.9	81.7	27.6	50	SW	.....	.....	1	.....	4	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.69	754.2	29.96	760 9	80.6	27.0	46	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.90	759.4	30.00	762.0	81.7	27.0	63	SW	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.26	743.1	30.00	762.0	84.9	29.4	45	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	I. R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.55	750.6	29 64	752.8	56.8	13.8	.....	W	7	3.1	.....	.....	9	.....	.....	Blank	Blank	Gloomy	W. Boswell.
Ardrossan	29.78	756.4	29.80	756.9	57	13.9	.....	WNW	.....	.....	5	.....	7	.....	.....	.....	.....	Showery... ...	Wm McNeil &G.Carrick
Armagh, Observatory	29.71	754.6	29.93	760.2	57.3	14.1	.....	WNW	9	4.0	.....	.....	5	.....	.....	.....	.....	D. clouds... ..	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	58.5	14.7	.....	W	29	13.0	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.89	759.2	58.3	14 6	.....	NW	36	16.1	.....	.....	10	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.50	749 3	29.90	759.4	64.4	18.0	.....	SW	.....	.....	3	.....	7	.....	.....	0.27	6.9	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.98	761.5	81	27.2	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Raining.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.75	755.6	29.84	757.9	71.5	21.9	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	29.86	758.4	66.0	18.9	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.77	756.1	29.89	759.2	72.9	22.7	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R. E.
Donaghadee	29.86	758.4	29.90	759.4	57	13.9	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	Showery.....	J. Mac Gowan.
Dover	29.90	759.4	29.93	760.2	63	17.2	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.80	756.9	30.03	762.7	60.7	15.9	.....	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier (Natal)	27.61	701.0	29.90	759.4	69.6	20.9	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	84	28 9	.....	SW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.96	761.0	63	17.2	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.80	756.9	29.85	758.2	80.8	27.1	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.56	751.3	29.78	756.4	58.1	14.5	.....	W	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	29.86	758.4	29.86	758.4	68	20.0	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.72	754.5	29.89	759.2	73.3	22.9	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds ...	The Staff, for G.B.Airy.
Guernsey	29.81	757.2	30.03	762.7	64	17.8	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	30.00	762.0	30.12	765.0	66	18.9	.....	N	.....	.....	2	2c	.....	.....	.....	0.23	5.8	Fine	M. P. Moyle.
Holyhead	29.98	761.5	29.98	761 5	62	16.7	.....	WSW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.74	755.4	30.03	762.7	62.4	16.9	.....	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.86	758.4	29.89	759.2	69.6	20.9	.....	SW	10	4.5	.....	.....	8	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester, Museum	29.65	753.1	29.90	759.4	62.8	17.1	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.95	760.7	80	26.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.51	749.5	29.60	751.8	59	15.0	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.09	764 3	84.5	29.2	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.73	755.1	29.92	760.0	67.7	19.8	.....	WNW	.....	.....	3	.....	2k	.....	WNW	0.023	0.59	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.41	747.0	29.92	760.0	61.0	16.1	.....	NW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.91	759.7	67	19.4	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.91	759.7	29.98	761.5	65.3	18.5	.....	NW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.97	761.2	30.09	764.3	62	16.7	.....	NNW	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded...	Wm. Kennedy.
Saint Ann's Head	29.85	758.2	30.01	762.2	57	13.9	.....	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.54	750.3	54	12.2	.....	W	11	4.9	.....	.....	10	.....	.....	0.68	17.3	Overcast.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	.....	.....	.....	.....	.....	.....	.....	NNE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Serg't. W. H.Lyne.
Sheffield	29.80	756.9	29.86	758.4	88.4	31.3	.....	W	.....	.....	5	.....	1	.....	.....	0.02	0.5	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.62	752.3	29.90	759.4	66.1	18.9	.....	W	.....	.....	5	.....	3	.....	.....	0	0	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	29.82	757.4	29.85	758.2	64.6	18.1	61	WSW	17	7.6	.....	.....	7	.....	.....	.....	.....	D clouds....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	29.91	759.7	60.7	15.9	.....	SW	.....	.....	3-4	.....	8	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.06	763.5	30.07	763.8	64	17.8	.....	N	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	30.06	763.5	30.08	764.0	59.3	15.2	.....	NW	15	6.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.26	768.6	30.30	769.6	58.8	14.9	.....	SE	7.6	3.4	.....	10	2	.....	.....	0	0	Cloudy?.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.78	756.4	59.9	15.5	.....	W	.....	.....	6	.....	5k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.2	71.0	21.7	61	ESE	21.5	9.6	.....	0	5	.....	SE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.04	763.0	30.13	765.3	47.7	8.7	76	W	4	1.8	.....	.....	6	.....	.....	0.02	0.5	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	26.00	660.4	.....	.....	50	10.0	.....	SW	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 9 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 55'. E. 28° 45'	.....	.....	29.91‡	759.7‡	76.2	24.6	NE	.....	4	3	.....	.....	.....	D. clouds....	Capt. W. J. L. Wharton.
Algeria, N. 45° 45', W. 44° 30'	.....	.....	30.09	764.3	59	15.0	WSW	.....	2	10	.....	2	SW	Overcast.....	Capt. Wm. Watson.
Atmosphere, N. 44° 50' W. 43° 30'	.....	.....	30.11	764.8	67	19.4	WSW	.....	3	4	.....	5	Con-fused	D. clouds....	.....
Barque Commewyne, N. 40° 40'. W. 44° 20'	.....	.....	30.09‡	764.3‡	73.2	22.9	N	.....	4	4	.....	.....	.....	D. clouds.....	Capt. A. Buchan.
Gordon Castle, N. 40° 15', W. 26° 35'	.....	.....	30.13	765.3	71	21.7	NE	.....	4	10	.....	4	N	Overcast.....	.....
German Brig "W. von Freeden" N. 2° 00', W. 72° 55'	.....	.....	30.23	767.8	84	28.9	ENE	.....	5	5	.....	4	E;SE	Squally.....	Capt. H. v. Freeden.
Theophane, N. 11° 40', W. 24° 40'	.....	.....	29.98‡	761.5‡	78	25.6	S	.....	5	10	.....	.....	.....	Raining	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.

Note.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.25	666.7	29.97	761.2	67.1	19.5	95	NE	.....	.....	1	.....	9s	.....	.....	0.70	17.8	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.94	760.4	29.98	761.6	68.4	20.2	66	SSE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Fanöe	29.87	758.6	29.89	759.1	71.6	22.0	87	SSW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.48	748.7	29.52	749.8	43.9	6.6	98	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	
Stykkisholm (Iceland)	29.88	759.0	29.93	760.1	52.5	11.4	81	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	29.63	752.5	29.66	753.4	50.7	10.4	89	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.80	756.9	29.91	759.7	63.3	17.4	93	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.44	747.8	29.99	761.8	77.0	25	61	WSW	.....	.....	1	.....	8k	.....	.....	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.85	758.3	29.98	761.0	75.6	24.2	75	SW	.....	.....	3	.....	8	.....	NE	0	0	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.70	754.8	29.94	760.6	73.4	23.0	76	NW	.....	.....	2	.....	.....	.....	W	0.189	4.8	.....	Klein, Commandant.
Avignon, Normal School	29.93	760.1	30.00	762.1	80.7	32.6	42	SW	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.43	747.5	29.95	760.7	83.7	28.7	53	SSW	.....	.....	1	.....	6ck	.....	W	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.71	754.7	29.96	761.0	81.1	27.3	59	WSW	.....	.....	1	.....	8	.....	WSW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.13	740.0	29.97	761.3	86.7	30.4	52	SSW	.....	.....	1	.....	5	SW	.....	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.3	30.13	765.2	89.6	32	43	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.48	748.8	30.01	762.2	80.6	27	64	NW	.....	.....	3	.....	ck	NW	NW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.73	755.1	29.97	761.3	65.1	18.4	72	N	.....	.....	1	.....	9	.....	N	0.059	1.50	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.58	751.3	29.97	761.2	82.8	28.2	52	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.93	760.1	30.00	762.0	76.6	24.8	67	S	.....	.....	1	.....	1	.....	W	0	0	V slightly Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.44	747.7	29.97	761.2	78.4	25.8	93	NW	.....	.....	2	.....	2	.....	E	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.1	29.95	760.8	83.5	28.6	41	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.64	727.5	29.91	759.6	87.4	30.8	47	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.15	740.3	29.95	760.7	84.6	29.2	47	W	.....	.....	1	.....	2ck	SW	SW	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.5	30.10	764.5	89.1	31.7	28	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.27	743.4	29.99	761.8	84.9	29.4	57	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	29.82	757.5	30.03	762.8	76.6	24.8	72	WNW	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.72	754.8	30.01	762.3	77.9	25.5	65	SW	.....	.....	2	.....	5	.....	WSW	0	0	Cloudy	Pourrier, Director.
Lons-Le-Saulnier, N.School	29.12	739.6	29.99	761.8	85.1	29.5	53	SW	.....	.....	1	.....	s	SW	SW	0	0	.....	A. Baudry, Director.
Lorient, Naval Observatory	29.94	760.4	30.04	763.0	73.4	23.0	72	W	.....	.....	1	.....	.....	.....	W	0.039	1.00	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.38	746.3	29.95	760.8	90.3	32.4	34	SE	.....	.....	1	2c	.....	SW	.....	0	0	Partly cl'dy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galaup Director.
Marseilles, Observatory	29.74	755.4	30.00	762.1	79.3	26.3	48	WNW	.....	.....	0–1	.....	1	.....	.....	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.95	735.3	29.94	760.5	82.0	27.8	74	NW	.....	.....	1	.....	2k	NW	NW	.....	.....	Slightly cov.	Barbier, Director.
Mont-Louis	24.99	634.8	30.31	769.8	78.8	26.0	29	W	15.0	6.7	.....	.....	.....	.....	.....	0	0	.....	M. Clave
Nice	30.00	761.9	30.03	762.7	83.7	28.7	65	SW	.....	.....	1	.....	5	SW	SW	0	0	Light mist	M. Boissier, Director.
Nismes, Normal School	29.86	758.3	30.04	763.1	93.9	34.4	38	SW	.....	.....	1	.....	2	.....	SW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.70	754.3	81.5	27.5	54	SW	.....	.....	2	.....	3	.....	SW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.74	577.6	.....	.....	69.4	20.8	.....	N	.....	.....	1	.....	1	.....	N	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.92	760.0	30.02	762.6	75.0	23.9	72	SE	9.4	4.2	.....	.....	2	.....	NE	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.35	643.8	.....	.....	67.6	19.8	70	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.94	761.0	30.02	762.4	82.4	28.0	63	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.89	759.1	29.97	761.2	75 2	24.0	67	WSW	.....	.....	1	.....	2	.....	SW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.99	761.7	30.02	762.5	68.5	20.3	71	NW	.....	.....	2	.....	1	WSW	WSW	0.024	0.62	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.80	757.0	29.97	761.3	81.5	27.5	57	SW	.....	.....	1–2	.....	1	WSW	SW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.91	734.3	29.93	760.3	81.3	27.4	67	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.30	744.2	30.02	762.6	81.7	27 6	57	SSE	.....	.....	2	.....	1	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.81	757.1	30.00	762.1	79 2	26.2	63	SSW	.....	.....	1	.....	7	.....	NNW	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.59	749.2	29.99	761.7	79.6	26.4	58	WNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	Dr. A. Berigay, Director
Villefranche-sur-Saone, N.S.	29.30	744.2	29.98	760.9	93.2	34	45	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	78 8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.68	753.8	29.70	754.4	78 8	26.0	99	NE	3.1	1 4	.....	ck	10k	S	.....	0.248	6.3	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:54 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,556.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 6.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.4	29.99	761.8	82.4	28.0	53	W	.....	.....	2	.....	3	SW	....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.80	756.8	29.96	761.0	71.6	22.0	87	S	.....	.....	1	.....	10	.....	.....	0.354	9.0	.....	Prof. Dr. Arndt.
Breslau	29.46	748.3	29.99	761.8	76.0	24.4	58	NNW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Royal University Ob'y.
Carlsruhe	29.53	750.0	29.93	760.2	85.3	29.6	62	SW	.....	.....	2	.....	9	SW	.....	0	0	.....	Albert Sena.
Cassel	29.35	745.6	29.96	761.0	81.0	27.2	66	N	.....	.....	3	.....	5	SW	....	0	0	.....	Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	78.8	26.0	66	S	.....	.....	1	.....	6k	.....	.....	0.67	17.	.....	Director Lose.
Emden	.....	.....	29.92	759.9	71.6	22.0	54	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.68	761.4	29.94	760.5	85.3	29.6	.....	W	.....	.....	2	.....	3	.....	.....	0.004	0.1	.....	Physical Society.
Freienwalde on the Oder	29.91	759.6	29.95	760.6	73.0	22.8	78	SE	.....	.....	2	.....	10cs	SW	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.61	726.6	29.97	761.3	77.0	25.0	79	SW	.....	.....	3	.....	3	WSW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.84	758.0	29.91	759.7	76.1	24.5	73	SSW	.....	.....	1	.....	8k	.....	.....	0.008	0.2	....	Captain F. Hegeman
Kiel	29.89	759.2	29.91	759.6	76.6	24.8	72	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.4	70.5	21.4	66	NE	.....	.....	3	.....	4	.....	.....	0	0	....	Prof. E. Luther.
Köslin	.....	.....	29.97	761.1	71.8	22.1	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	....	H. Müller.
Leipsic Observatory	29.52	749.7	29.91	759.8	82.0	27.8	48	WSW	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.96	761.0	30.01	762.3	66.4	19.1	72	NW	.....	.....	3	.....	7s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.22	716.8	30.09	764.2	83.7	28.7	41	W	.....	.....	5	.....	3	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	30.00	762.1	30.02	762.5	65.1	18.4	69	NNE	.....	.....	2	.....	1	.....	.....	0	0	.....	A. Lothes.
Posen	29.73	755.2	30.01	762.2	77.0	25.0	68	W	.....	.....	2	.....	9	.....	.....	0.331	8.4	.....	Dr. Mugener.
Strassburg (in Alsace)	29.44	747.7	29.95	760.8	89.8	32.1	59	SW	.....	.....	2	.....	5	SW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.01	736.9	29.89	759.2	85.1	29.6	52	E	.....	.....	1	.....	4	W	.....	0.036	0.9	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.52	724.3	29.93	760.3	81.7	27.6	53	W	2	1	.....	.....	4k	.....	W	0	0	Hazy...	T. Hopfner.
Wustrow	29.93	760.1	29.95	760.7	76.1	24.6	65	E	.....	.....	2	.....	8s	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.1	29.91	759.6	86.7	30.4	.....	NE	.....	.....	2.5	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.46	748.2	29.51	749.5	83.0	28.3	75	WSW	13.0	5.8	.....	.....	2	.....	.....	0	0	D. clouds.....	
Deesa	29.06	738.1	29.52	749.8	80.9	32.7	55	WSW	11.5	5.1	.....	.....	7	.....	WSW	0	0	D. clouds....	
Bombay	29.63	752.7	29.67	753.6	77.2	25.1	94	W	20.0	8.9	.....	.....	10	.....	WSW	0.58	14.7	Gloomy.....	
Poona	27.82	706.6	29.68	753.9	74.0	23.3	84	W	21.0	9.4	.....	.....	10	.....	W	0.23	5.8	Overcast.....	
Lahore	28.55	725.3	29.25	742.8	107.3	41.8	35	Calm	3.9	1.7	.....	.....	5	.....	.....	0	0	D. clouds....	
Belgaum	27.18	690.5	29.74	755.5	69.2	20.7	95	W	21.0	9.4	.....	.....	10	W	W	0.38	9.6	Drizzling.....	
Roorkee	28.48	723.3	29.36	745.6	84.2	29.0	87	E	1.6	0.7	.....	.....	9	.....	.....	0	0	Gloomy.....	
Agra	28.86	732.9	29.40	746.7	91.7	33.2	65	SW	.....	.....	.....	.....	10	.....	SW	0	0	.....	
Nagpur	28.49	723.6	29.52	749.8	79.7	26.5	87	S	5.4	2.4	.....	.....	10	.....	NE	0.45	11.4	Overcast.....	
Lucknow	29.10	739.0	29.46	748.4	84.8	29.1	96	Calm	0.8	0.1	.....	.....	10	... .	.....	0	0	Overcast.....	
Allahabad	29.14	740.1	29.45	747.9	82.5	28.1	66	Calm	1.8	0.8	.....	.....	10	.....	.....	0	0	Overcast.....	
Patna	29.25	743.0	29.43	747.5	85.6	29.6	84	ESE	0.2	0.1	.....	.....	10	ESE	ESE	2.01	50.8	Overcast.....	
Hazaribagh	27.47	697.7	29.44	747.9	80.8	27.1	81	NNE	4.5	2.0	.....	.....	10	.....	N	0.26	6.6	Raining	
Cuttack	29.38	746.2	29.46	748.3	81.8	27.7	83	NNW	2.0	0.9	.....	.....	9	.....	.....	0.23	5.8	Drizzling.....	
Calcutta (Alipore)	29.40	746.8	29.42	747.4	83.7	28.7	85	ENE	3.0	1.3	.....	.....	10	SE	SE	0	0	Overcast.....	
Goalpara	29.11	739.3	29.49	749.1	80.8	27.1	90	E	1.9	0.8	.....	.....	9	.....	.....	1.76	44.7	D. clouds.....	
Chittagong	29.44	747.7	29.63	749.9	83.2	28.4	81	SSE	6.1	2.7	.....	.....	10	.....	.....	0	0	Threatening	
Sibsagar	29.21	742.0	29.64	750.4	83.2	28.4	86	NE	1.2	0.5	.....	.....	10	W	W	0.52	13.2	Overcast.....	
Jubbulpore	28.12	714.2	29.47	748.4	79.8	26.6	83	Calm	2.6	1.2	.....	.....	10	.....	S	0.60	15.2	Drizzling.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.5	29.98	761.4	86.4	30.2	42	SE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	748.8	29.94	760.4	87.3	30.7	45	SSW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.67	753.7	29.96	761.4	86.4	30.2	36	WSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.8	29.99	761.7	84.6	29.2	43	WSW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.83	757.6	30.01	762.3	78.8	26.1	59	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.17	714.0	29.93	760.3	83 1	28.4	47	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.95	760.7	30.00	761.9	79.0	26.1	50	NE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.73	755.2	29.98	761.5	90.5	32 5	28	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.95	760.8	30.04	762.9	78.8	25.9	74	W	3.6	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.3	29.98	761.6	87.1	30.6	40	SSW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.72	755.0	29.97	761.2	78.8	26.0	53	ESE	15.4	6.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.11	739.5	29.95	760.8	86.4	30.2	59	N	1.6	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.4	30.01	762.1	81.6	27.6	66	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.3	30.02	762.4	77.9	25.5	58	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.90	759.5	29.97	761.3	83.3	28.5	60	E	7.4	3.3	.....	.....	2	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.8	30.04	762.9	82.6	28.2	48	WNW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.94	760.5	80.5	26.9	82	Calm	0	0	.....	.....	1ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	78.1	25.6	92	S	0.8	0.4	.....	.....	9cs;ck	.....	.....	0.110	2.79	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.90	759.4	29.97	761.2	76.2	24.6	86	SSW	3.3	1.5	.....	1c;cs	6ks	.....	.....	0	0	Fair	The Staff.
Wakayama	29.89	759.2	29.94	760.5	79.0	26 1	72	S	3.3	1.5	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	8	.....	SE	0.06	1.4	Cloudy	P. Ceballos.
Guadalajara	25.02	635.6	30.03	762.7	57.6	14.2	76	Calm	.....	.....	2	1c	1k	.....	.....	0	0	Clear	Prof. L. Peres.
Leon	24.41	620.0	30.04	763.1	62 6	17.0	78	W	.....	.....	.....	.....	10k	.....	.....	0	0	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.6	30.02	762.4	57 2	14.0	81	Calm	0	0	.....	2c	2s	.....	E	0	0	Clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.4	15.8	74	Calm	.....	.....	0	2c	2s	.....	E	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.90	759.5	29.91	759.8	75.2	24.0	95	W	.....	.....	1	5	6	NW	W	3.95	100.3	Cloudy	Prof. M. M. Chásaro.
San Luis Potosi	24.22	615.3	30.10	764.5	64.9	18.3	67	E	.....	.....	1	2	3	E	E	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	Prof. J. Rossell.
Zacatecas	22.68	573.4	30.14	765.5	55.9	13.3	77	NE	.....	.....	3	1s	0	.....	.....	0	0	Clear	A. Nuñez.
Puebla (Catholic Institute)	23.39	594.0	30.18	766.6	50.2	10.1	81	NE	0.3	0.1	.....	4c	.....	.....	NE	0.31	7.9	Fair	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.60	751.9	29.89	759.2	79.5	26.4	94	SE	.....	.....	2	5c	4n	SE	SE	0	0	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.6	29.95	760.6	69.4	20.8	.....	W	.....	.....	4	.....	.....	.....	.....	0.083	2.1	.....	H. v. d. Brink.
Groningen	29.87	758 6	29.92	760.0	72.1	22.3	.....	SW	.....	.....	0	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.90	759.4	29.9	759.4	69.8	21.0	.....	SSW	.....	.....	2	.....	.....	.....	.....	0.028	0 7	.....	
Hellevoetsluis	29.91	759.7	29.91	759.7	75.7	24 3	74	W	.....	.....	4	.....	.....	.....	.....	0 276	7 0	.....	
Utrecht	29.89	759.1	29.93	760.3	76 5	24.7	69	S	.....	.....	3	.....	5	.....	.....	0.004	0.1	Cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.77	756.1	29.82	757.5	68.0	20.0	60	S	8.7	3.9	.....	.....	10	.....	.....	0.787	20.0	Raining	
Brönö	29.95	760.8	29.99	761.8	78.8	26.0	42	S	18	8	.....	.....	4	.....	.....	0	0	.....	
Christiania	29.85	758.3	30.00	761.9	73.0	22.8	60	SE	7	3	.....	.....	7	.....	.....	0.240	6.1	.....	
Tromsö	30.03	762.7	30.07	763.8	66.9	19.4	63	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.90	759.4	30.08	764.1	73.4	22.8	77	W	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.3	29.91	759.8	68.7	31.5	32	WNW	2.5	1.1	.....	.....	7	W	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.93	760.2	30.02	762.4	73.0	22.8	67	SW	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.61	752.0	29.95	760.8	74.1	23.4	64	NE	6.3	2.8	.....	.....	10	WSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.00	762.1	30.09	764.3	78.4	25.8	58	WSW	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello				H. de C. C. e Athayde.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	NW	D. clouds	J.T.d'Oliveria, Com'd't.
Rio Duro				A. A. A. Loureiro.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	2	NE	D. clouds	F. Teixeira da Silva, Com'd't.
Sá da Bandeira				H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello				J.G. Felgo 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	0	SW	Overcast. 1 hr's rain-fall.	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.52	749.9	29.93	760.2	72.9	22.7	65	SW	7	3	.....	.....	9ck;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.54	750.3	29.97	761.1	64.4	18.0	73	SW	2	1	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.84	757.9	30.07	763.8	72.1	22.3	56	ESE	9	4	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.13	765.4	30.15	765.8	74.1	23.4	45	SE	11	5	.....	.....	7ks;n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.25	743.0	29.85	758.3	75.4	24.1	61	NE	9	4	.....	.....	8k;cks;	ckn]...	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.80	756.9	29.87	758.7	80.4	26.9	56	NW	13	6	.....	.....	3ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758.6	29.89	759.1	75.2	24.0	88	SSW	7	3	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.67	761.0	30.09	764.3	73.0	22.8	46	SE	7.8	3.5	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.48	748.9	29.69	754.0	70.3	21.3	90	ENE	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.25	743.0	29.86	758.3	75.4	24.1	61	NE	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.38	720.9	29.70	754.4	90.5	32.5	35	NW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.95	760.7	29.87	758.6	82.9	28.3	33	SE	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.56	750.7	30.01	762.2	74.1	23.4	33	N	2	1	.....	.....	2	.....	.....	.....	.....	.....	Oand. Fatjanow.
Kasan	29.71	754.5	29.97	761.1	70.0	21.1	44	N	4	2	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.91	734.2	29.86	758.4	53.2	11.8	42	NW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.56	750.7	29.78	756.3	59.2	31.8	32	NNE	11	5	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.15	715.0	29.60	751.7	90.7	32.6	48	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.10	739.0	29.58	751.3	60.4	15.8	65	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yenisiesk	29.39	746.4	29.66	753.4	68.0	20.0	88	Calm	0	0	.....	.....	7	.....	.....	.....	.....	Raining	Marks.
Irkutsk																			
Peking (China)	29.43	747.4	29.57	751.0	81.0	27.2	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observat ory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.79	756.6	29.89	759.1	69.4	20.8	96	ESE	22	10	.....	.....	8cs	.....	.....	.....	.....	Light fog	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	78.3	25.7	73	ENE	4.2	1.86	.....	.....	2	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.8	29.97	761.2	87.8	31.0	57	NW	3.8	1.69	0	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.5	.....	.....	90.5	32.5	30	NE	4.4	1.98	0	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.77	705.3	29.80	756.9	98.6	37.0	19	S	5.2	2.33	0	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.94	760.5	95.0	35.0	45	ENE	4.8	2.14	0	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.00	736.6	29.85	758.1	83.1	28.4	58	SW	10.5	4.7	.....	0	6	.....	.....	0.016	0.4	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.97	761.2	30.04	762.9	80.0	26.7	81	ESE	3.6	1.6	.....	1c	k	ENE	ESE	Inap.	Inap.	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.72	754.8	29.77	756.1	82.1	27.8	90	SE	2.7	1.2	.....	.....	10	.....	W	0.515	13.1	Raining	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.86	758.3	29.95	760.7	80.2	26.8	65	WNW	4.9	2.2	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762.1	80.2	26.8	80	SE	.....	.....	.....	5cs	3k	SE	SE	0.020	0.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:10 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hilde-brandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.20	767.0	30.24	768.0	77.7	25.4	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	30.17	766.2	30.22	767.5	72.7	22.6	44	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.08	764.0	30.13	765.3	75.2	24.0	69	ENE	.....	.....	4	.....	4	.....	.....	0	0	.....	
Stockholm	29.90	759.5	30.08	764.0	69.1	20.6	66	NE	.....	.....	4	.....	4	.....	.....	0.016	0.4	.....	
Wisby	29.92	760.0	29.98	761.5	68.0	20.0	76	NE	.....	.....	4	.....	5	.....	.....	0.071	1.8	.....	
Sub-Series.																			
Upsala	29.98	761.6	30.07	763.8	69.6	20.9	65	ESE	8.3	3.7	.....	.....	5	E	E	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 56° 57', E. 6° 57'	.....	.....	29.93	760.2	60.8	16.0	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.3	29.99	761.7	70.8	26.3	63	NNE	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.43	722.2	29.97	761.2	66.0	30.0	56	NW	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, −0.5 mm.; Thermometer, +3.8 Cent.; Relative Humidity, +10 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.94	760.4	77.0	25.0	59	ENE	11	5.0	.....	.....	6	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.0	81.0	27.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751.6	29.70	754.4	88.0	31.1	55	W	.....	.....	2	.....	2k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.93	760.2	29.99	761.7	72	22.2	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.99	761.7	30.03	762.7	71	21.7	76	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.83	757.7	30.01	762.2	71.0	21.7	73	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.78	756.4	29.94	760.5	69.3	20.7	76	W	.....	.....	1	0	0.	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.87	758.7	60	15.6	81	W	18	8.0	.....	5c	Haze	Calm	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.01	762.2	30.07	763.8	70.1	21.2	79	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.96	735.6	29.70	755.9	58	14.4	94	SE	9	4.0	.....	Haze	5ks	SW	SW	0	0	Hazy	James Stewart.
Granton, Ontario	29.01	736.8	30.06	763.5	72	22.2	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.01	762.2	30.12	765.0	60	15.6	95	SW	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.73	755.1	30.08	764.0	71.8	22.1	85	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Hearr's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.76	755.9	30.08	764.0	73	22.8	84	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.04	763.0	72.3	22.4	83	SW	7	3.1	.....	2c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.86	758.4	30.05	763.3	71	21.7	65	SW	18	5.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.35	745.5	30.02	762.5	74	23.3	72	S	5	2.2	.....	Haze	Haze	S	S	0	0	Hazy	Rev. R. Mosley.
Peterboro, Ontario	29.35	745.5	30.07	763.8	73.7	23.2	74	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.41	747.0	30.07	763.8	70	21.1	95	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.00	762.0	30.05	763.3	68.6	20.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.08	764.0	73	22.8	95	SE	4	1.8	.....	Haze	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.73	755.1	30.04	763.0	67	19.4	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.56	750.8	30.01	762.2	63	17.2	88	E	3	1.3	.....	0	Sm'e	.....	.....	0	0	Smoky	W. H. McIntyre.
St. Andrews, N. B	30.01	762.2	30.06	763.5	58	14.4	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.92	760.0	30.09	764.3	56	13.3	93	S	6	2.7	.....	.....	Fog	.....	.....	0	0	Light fog	G. Murdock, C. E.
Stayner, Ontario	29.34	745.2	30.01	762.2	75	23.9	69	SW	12	5.4	.....	0	Sm'e	.....	.....	0	0	Smoky	K Stewart.
Stratford, Ontario	29.28	743.7	30.02	762.5	74	23.3	43	SW	10	4.5	.....	2k	0	W	.....	0	0	Fair	R. J. Cole.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Toronto, Ontario	30.01	762.2	30.05	763.3	70	21.1	80	SW	8	3.6	.....	2c	0	N	.....	0	0	Clear	T. C. Hill.
Windsor, N. S	29.72	754.9	30.09	764.3	69	20.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Woodstock, Ontario	30.04	763.0	30.07	763.8	73.0	22.8	72	N	0	0	.....	2c	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			Prof. J. Montgomery.
St. Johns, Newfoundland	29.83	757.7	30.07	763.8	72.0	22.2	54	SW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.93	760.2	30.15	765.8	70	21.1	75	SW	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Alpena, Michigan	29.36	745.7	29.97	761.2	72	22.2	67	S	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	47	8.3	100	W	26	11.6	.....	.....	10s	.....	W	0	0	Cloudy	
Atlanta, Georgia	29.02	737.1	30.13	765.3	72	22.2	90	E	14	6.3	.....	.....	10s	.....	E	0.25	6 3	Cloudy	
Atlantic City, New Jersey	30.19	766.8	30.20	767.1	73	22.8	90	SW	7	3.1	.....	5ck	2s	NW	NW	0 01	0.3	Fair	
Augusta, Georgia	30.03	762.7	30.23	767.8	77	25.0	86	NE	4	1.8	.....	5ck	2s	SE	Calm	0.94	23.9	Fair	
Baltimore, Maryland	30.17	766.3	30.22	767.6	74	23.3	86	SW	4	1.8	.....	2c	2s	SW	SW	0	0	Fair	
Barnegat, New Jersey	30.17	766.3	30.19	766.8	77	25.0	82	SW	7	3.1	.....	8k	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.03	711.9	29.89	759 2	64	17.8	83	N	8	3.6	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Boerne, Texas	28.56	725.4	29.84	757 9	67	19.4	100	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.23	691.6	30.19	766 8	50	10.0	58	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.99	761.7	30.14	765.5	76	24.4	69	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.86	733.0	29.84	757.9	77	25.0	46	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.76	730.5	29.71	754.6	65	18.3	100	E	7	3.1	.....	.....	Fog	.....	.....	0.18	4.6	Foggy	
Brownsville, Texas	29.88	758.9	29.93	760.2	77	25.0	86	Calm	0	0	.....	2k	0	SE	.....	0.02	0.5	Clear	
Buffalo, New York	29.4	746.7	30.06	763.5	75	23.9	68	S	7	3.1	.....	0	Haze	.....	Calm	0	0	Hazy	
Burkes, Arizona	.....	.....	.....	.....	92	33.3	29	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.83	757.7	30.11	764.8	73	22.8	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.76	755.9	30.13	765.3	80	26.7	74	S	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Campo, California	27.28	692.9	29.85	758.2	59	15.0	65	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	80	26.7	91	SW	9	4.0	.....	5ck	1ks	W	SW	0	0	Fair	
Cape Henry, Virginia	30.24	768.1	30.26	768.6	75	23.9	81	SW	6	2.7	.....	.....	10ks	.....	SW	0.09	2.3	Cloudy	
Cape Lookout, N. Carolina	30.27	768.8	30.28	769.1	83	28.3	75	SW	12	5.4	.....	8ck	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.17	766.3	30.20	767.1	72	22.2	90	S	4	1.8	.....	5ck	5ks	SW	SW	0.48	12.2	Cloudy	
Castroville, Texas	29.21	741.9	29.88	758 9	78	25 6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.17	766 3	30.22	767.6	84	28.9	71	S	10	4.5	.....	2k	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.42	747.3	30.22	767.6	71	21.7	95	SE	4	1.8	.....	.....	10s	.....	S	0.41	10.4	Cloudy	
Chattanooga, Tennessee	29.38	746.2	30.16	766.1	70	21.1	95	Calm	0	0	.....	.....	10s	.....	SE	0.19	4.8	Cloudy	
Cheyenne, Wyoming	24.77	611.4	30.01	762.2	63	17.2	38	NW	8	3.6	.....	0	0	.....	.....	Inap	Inap.	Clear	
Chicago, Illinois	29.34	745.2	30.00	762.0	74	23.3	59	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.51	749.5	30.13	765 3	77	25.1	69	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.39	745.5	30.08	764.0	74	23.3	72	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.20	716.3	29.79	756 7	75	23.9	65	Calm	0	0	.....	0	5ks	.....	S	0	0	Fair	
Columbus, Ohio	29 30	744.2	30.09	764.3	77	25.0	69	S	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Concho, Texas	28.09	713.5	29.69	754.1	75	23.9	68	SW	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.54	750.3	29.99	761.7	77	25.0	65	SE	2	0.9	.....	0	2ks	.....	Calm	0	0	Clear	
Davenport, Iowa	29.38	746 2	29.98	761.5	73	22.8	67	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Deadwood, Dakota	25.33	643.4	.....	.....	62	16.7	77	Calm	0	0	.....	.....	10c	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.86	733.0	29.97	761.2	78	25.6	86	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29 2?	742.2	29.98	761.5	76	24.4	77	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.79	629.6	30.01	762 2	66	18.9	59	S	5	2.2	.....	2ck	0	Calm	.....	0	0	Fair	
Des Moines, Iowa	29.04	737.6	29.86	758.4	77	25.0	69	SW	6	2.7	.....	5cs	0	W	.....	0	0	Fair	
Detroit, Michigan	29.41	747.0	30.05	763.3	71	21.7	85	SW	2	0.9	.....	5ck	0	W	.....	0	0	Fair	
Dodge City, Kansas	27.38	695.4	29.55	750.6	73	22.8	50	S	16	7.2	.....	2c	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.29	744.0	29.95	760.7	76	24.	73	SW	3	1.3	.....	8k	0	SW	.....	0	0	Fair	
Duluth, Minnesota	29.14	740.1	29.78	756.4	68	20.0	95	Calm	0	0	.....	.....	10s	.....	Calm	2.03	51.6	Cloudy	
Eagle Pass, Texas	29.20	741.7	29.99	759.4	79	26.1	70	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.02	762.5	30.09	764.3	59	15.0	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	74	23.3	90	Calm	.....	.....	0	0	2s	.....	Calm	Inap.	Inap.	Fair	
El Paso, Texas	26.26	667.0	.....	.....	67	19 4	64	Calm	0	0	.....	1k	0	E	.....	0	0	Clear	
Erie, Pennsylvania	29.40	746 7	30.08	764.0	77	25.0	69	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.24	742.7	29 86	758 4	70	21.1	85	SW	16	7.2	.....	....	10s	.....	SW	0.07	1.8	Cloudy	
Florence, Arizona	28.34	719.8	29.94	760.5	85	29.4	41	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.78	705.6	29 52	749.8	64	17.8	83	NW	12	5.4	.....	6cs	0	NW	.....	0.05	1.3	Fair	
Fort Davis, Texas	25 26	641.6	30.22	767.6	67	19.4	60	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.48	748.8	29.99	761.7	80	26.7	62	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.22	640 6	30.02	762.5	77	25 0	38	NE	8	3.6	.....	5k	0	Calm	.....	0	0	Fair	
Fort Griffin, Texas	28.75	730.2	29 97	761.2	73	22.8	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.36	694.9	.....	.....	63	17.2	83	W	1	0.4	.....	10k	0	W	.....	0.62	15.7	Cloudy	
Fort McKavett, Texas	27.77	705.4	29.60	751.8	74	23.3	68	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.79	731.3	29.55	758.2	73	22.8	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.98	710.2	.....	.....	62	16.7	88	E	3	1.3	.....	.....	8s	.....	E	1.58	40.1	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.76	755.9	77	25.0	69	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.48	761.5	30.02	762.5	77	25.0	86	S	4	1.8	.....	5k	5n	Calm	S	0.43	10.9	Light rain	
Graham, Texas	28.92	734.6	29.93	760.2	75	23.9	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.38	746 2	30.00	762.0	77	25.0	69	S	15	6.7	.....	0	2s	.....	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.03	737 3	29.93	760 2	72	22..	76	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.42	744.7	30.06	763.5	78	25.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.08	761.5	30.00	762.0	80	26 7	82	Calm	0	0	.....	0	2ks	.....	S	0	0	Fair	
Jacksboro, Texas	28.89	733.8	29.95	760.7	79	26.1	70	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.18	766.1	30.18	766.6	82	27.8	79	E	6	2.7	.....	2cs	0	Calm	.....	0.05	1.3	Fair	
Keokuk, Iowa	29.37	746.0	29.95	760.7	78	25.6	65	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.04	762.7	30.06	763.5	83	28.3	75	E	13	5.8	.....	2k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.18	766.6	30.20	767.1	79	26.1	91	SW	8	3.6	.....	5cs	2s	SW	SW	0.60	15.2	Fair	
Knoxville, Tennessee	29.23	742.4	30.00	762.0	70	21.4	93	NE	7	3.1	.....	.....	10ks	.....	SW	0.06	1.5	Cloudy	
La Crosse, Wisconsin	29.21	741.9	29.91	759.7	73	22.8	81	SE	1	0.4	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	64	17.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29 53	750.0	29.85	758 2	84	28.9	47	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	72	22.2	76	S	7	3.1	.....	Hz1ck	0	Calm	.....	0.02	0.5	Clear	
Little Rock, Arkansas	29.75	755 8	30.10	764.5	73	22.8	95	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.47	748.5	29.80	756.9	60 0	15.6	91	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.59	751 6	30.12	765.1	78	25.6	60	S	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.58	751 3	30.24	768.1	73	22.8	85	SW	2	0.9	.....	.....	10s	.....	SW	0.87	22.1	Cloudy	
Madison, Wisconsin	28.93	736.3	29.93	760.2	72	22.2	71	S	7	3.1	.....	10cs	0	Calm	.....	0	0	Cloudy	
Marquette, Michigan	29.12	739.6	29.78	756.4	71	21 7	75	SW	8	3.6	.....	5c	0	SW	.....	0	0	Fair	
Mason, Texas	28.89	721.1	30.08	764.0	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.09	764 3	76	24.4	86	E	4	1.8	.....	1k	0	SE	.....	0.04	1.0	Clear	
Milwaukee, Wisconsin	29.25	742.9	29 94	760.5	72	22.2	67	SW	9	4.0	.....	8c	1ks	Calm	Calm	0	0	Cloudy	
Mobile, Alabama	30.04	763.0	30.08	764.0	73	22.8	95	N	4	1.8	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Montgomery, Alabama	29.88	758.9	30.10	764.5	76	24.4	86	E	6	2.7	.....	1k	8ks	SE	SE	0.03	0.8	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.20	741.7	30.15	765.8	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	24.09	611.9	30.45	773.4	51	10.6	79	NW	15	6.7	.....	0	2ks	.....	Calm	0	0	Clear.....	
Nashville, Tennessee.....	29.62	752.3	30.18	766.3	78	25.6	78	E	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair.....	
New Haven, Connecticut....	30.05	763.3	30.16	766.1	78	25.6	78	Calm	0	0	.....	0	Hazsmo	.....	Calm	0	0	Clear.....	
New London, Connecticut...	30.12	765.0	30.17	766.3	71	21.7	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
New Orleans, Louisiana....	30.00	762.0	30.00	763.5	82	27.8	79	N	4	1.8	.....	0	1ks	.....	Calm	1.39	35.3	Clear.....	
Newport, Rhode Island.....	30.11	764.8	30.16	766.1	74	23.3	81	SW	2	0.9	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
New York, New York.....	30.01	762.2	30.18	766.6	69	20.6	100	SW	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Norfolk, Virginia.....	30.21	767.3	30.26	768.6	75	23.9	81	SW	5	2.2	.....	.....	10s	.....	SW	0.08	0.8	Cloudy.....	
North Platte, Nebraska.....	26.95	684.5	29.37	746.0	69	20.6	85	S	6	2.7	.....	2ck	0	Calm	....	0	0	Clear.....	
Olympia, Washington Ter..	30.11	764.8	30.15	765.8	44.0	6.7	92	NW	2	0.9	.....	8ck	0	W	.....	0	0	Fair.....	
Omaha, Nebraska.....	28.72	729.5	29.74	755.4	78	25.6	57	S	12	5.4	.....	2k	0	SW	.....	0	0	Clear.....	
Oswego, New York.....	29.80	756.9	30.11	764.8	72	22.2	80	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pembina, Dakota.....	28.90	734.0	29.70	754.4	55	12.8	100	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Philadelphia, Pa.....	30.13	765.3	30.18	766.6	75	23.9	81	SW	8	3.6	.....	1cs	Fog	Calm	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.58	725.9	30.25	768.3	86	30.0	51	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Pike's Peak, Colorado.....	18.04	458.2	30.25	768.3	39	3.9	55	W	20	8.9	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Pilot Point, Texas.....	29.09	738.9	29.88	758.9	86	30.0	75	S	10	4.5	.....	2k	0	SE	.....	0	0	Fair.....	
Ploche, Nevada.....	.....	.....	.....	.....	65	18.3	40	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania....	29.86	758.7	30.14	765.5	69	20.6	90	E	2	0.9	.....	0	Fog	.....	Calm	0.84	21.3	Foggy.....	
Port Huron, Michigan.....	29.41	747.0	30.05	763.3	71	21.7	80	S	5	2.2	.....	0	Haze	.....	.....	0	0	Clear.....	
Portland, Maine.....	30.07	763.8	30.12	765.0	71	21.7	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon.....	30.07	763.8	30.15	765.8	53.5	11.9	83	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.76	628.9	30.12	765.0	65	18.3	73	W	1	0.4	.....	5ck	0	W	.....	Inap.	Inap.	Fair.....	
Punta Rassa, Florida.....	30.09	764.8	30.11	764.8	80	26.7	78	E	10	4.5	.....	5c	0	W	.....	0.24	6.1	Fair.....	
Red Bluff, California.....	29.43	747.5	29.76	755.9	80	26.7	19	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.76	755.9	29.97	761.2	79	26.1	82	E	5	2.2	.....	1c	0	Calm	.....	0.04	1.0	Clear.....	
Rochester, New York.....	29.51	749.5	30.10	764.5	73	22.8	72	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon.....	29.52	749.8	30.10	764.5	48	8.9	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.64	752.8	29.71	754.6	74	23.2	40	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.50	749.3	30.06	763.5	78	22.8	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.09	764.3	30.11	764.8	74	23.3	100	NE	4	1.8	.....	.....	10n	.....	Calm	8.56	217.4	Heavy rain..	
St. Paul, Minnesota.....	28.93	734.8	29.71	754.6	70	21.1	84	SE	25	11.2	.....	.....	10ks	.....	S	1.00	25.4	Cloudy.....	
Salt Lake City, Utah.....	25.03	651.0	29.96	761.0	68	20.0	38	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
San Antonio, Texas.....	29.31	744.5	29.86	758.4	79	26.1	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.74	755.4	29.81	757.2	65	18.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.44	747.8	30.08	764.0	74	23.3	72	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey....	30.15	765.8	30.18	766.6	79	26.1	78	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
San Francisco, California..	29.68	753.9	29.74	755.4	61	16.1	82	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.38	593.8	29.92	760.0	60	15.6	60	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.....	
Savannah, Georgia.....	30.13	765.3	30.22	767.6	83	28.3	75	SE	9	4.0	.....	2ck	8s	SE	SE	0.40	10.2	Cloudy.....	
Shreveport, Louisiana.....	29.83	757.7	30.04	763.0	76	24.4	86	SE	2	0.9	.....	0	8ks	.....	Calm	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.26	768.6	30.25	769.4	81	27.2	87	S	8	3.6	.....	5ck	0	S	.....	0	0	Fair.....	
Socorro, New Mexico.....	25.42	645.7	29.49	749.0	76	24.4	38	S	6	2.7	.....	5ck	2s	S	Calm	0	0	Cloudy.....	
Springfield, Ill.....	29.41	747.0	30.06	763.5	75.0	24.1	66	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	30.03	762.7	30.15	765.8	73	22.8	76	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy.....	
Stockton, Texas.....	26.88	682.7	29.88	758.9	76	24.4	2	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.12	765.0	30.18	766.6	68	20.0	95	SW	6	2.7	.....	0	Haze	....	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.40	746.7	30.05	763.3	76	24.4	69	S	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear.....	
Tucson, Arizona.....	27.42	696.5	29.97	761.2	84	28.9	53	Calm	0	0	.....	8ck	0	S	.....	0	0	Cloudy.....	
Umatilla, Oregon.....	29.80	756.9	30.29	769.4	54.0	12.2	43	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.06	738.1	29.84	757.9	78	25.6	69	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.84	757.9	30.09	764.3	73	22.8	90	SE	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Virginia City, Montana.....	24.34	618.2	29.82	757.4	54	12.1	55	SE	6	2.7	.....	0	0	....	.....	0.01	0.3	Clear.....	
Visalia, California.....	29.36	745.7	29.69	754.1	68	20.0	56	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	30.09	764.3	30.20	767.1	73	22.8	85	SW	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Wickenburg, Arizona..	.....	.....	.....	.....	81	27.2	63	E	.....	.....	1	.....	10s	.....	Calm	0.12	3.0	Cloudy.....	
Wilmington, N. Carolina.....	30.26	767.1	30.27	768.8	80	26.7	82	S	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair.....	
Winnemucca, Nevada.....	25.71	653.0	30.07	763.8	57	13.9	20	E	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.11	764.8	30.15	765.8	71	21.7	90	W	3	1.3	.....	0	5s;fg	.....	.....	0	0	Fair.....	
Yankton, Dakota.....	28.48	723.4	29.68	753.9	75	23.9	64	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona.....	29.66	760.8	29.71	754.6	91	32.8	51	SE	12	5.4	.....	5c	2s	Calm	Calm	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I.....	29.95	760.7	30.00	762.0	83	28.3	79	E	2.4	1.1	.....	8c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.*.	25.26	641.6	.....	.....	64.5	18.1	87	Calm	.....	.....	0	.....	10n	.....	.....	0.52	13.2	.....	Thomas Herran.
Navassa, W. I.....	29.85	758.2	29.93	760.2	82	27.8	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.00	762.0	30.00	762.0	82	27.8	83	E	.....	.....	2	3c	5k	E	....	0.470	11.94	Fair.....	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	80	26.7	91	NE	6	2.7	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.97‡	761.2‡	.....	.....	77	25.0	88	SW	.....	.....	1	c	3ck	.....	NE	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	29.78‡	756.4‡	.....	.....	70	21.1	??	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alliance, Copenhagen, Denmark	29.98‡	761.5‡	.....	.....	69	20.6	70	S	.....	.....	1-2	.....	7	.....	S	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.96‡	761.0‡	.....	.....	79	26.1	91	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Hazy	
Colorado, New York, N. Y.	29.94‡	760.5‡	.....	.....	72	22.2	90	Calm?	4	1.8	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy	
Constellation, Boston, Mass.	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.17‡	766.3‡	.....	.....	73	22.8	90	SSW	.....	.....	2	.....	6	.....	SSW	.....	.....	.....	.....	Misty	
Enterprise, N. 60° 07′, E 27° 30′	30.11‡	764.8‡	.....	.....	72	22.2	76	E	.....	.....	2-3	.....	1	.....	E	.....	.....	Smooth	.....	Clear	
Essex, Montevideo, Uruguay	29.90‡	759.4‡	.....	.....	54	12.2	93	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Smooth	SW	Foggy	
Franklin, Norfolk, Va.	30.27‡	768.8‡	.....	.....	75	23.9	86	SSW	6	2.7	.....	.....	10	.....	.....	0.06	1.5	.....	.....	Cloudy	
Hartford, S. 25° 26′, W. 42° 15′	30.17‡	766.3‡	.....	.....	73	22.8	81	NNE	5	2.2	.....	.....	2	.....	NE	0	0	Smooth	.....	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	60	15.6	88	NW	6	2.7	.....	.....	2	.....	SW	0	0	.....	.....	Clear	
Kearsarge, Charlottetown, Prince Edward Island	30.03‡	762.7‡	.....	.....	70	21.1	80	W	.....	.....	2	.....	8	.....	W	.....	.....	.....	.....	Fair	
Michigan, Chicago, Ill.	29.97‡	761.2‡	.....	.....	70	21.1	75	SW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	Hazy	
Monocacy, Shanghai, China	29.68‡	753.9‡	.....	.....	82	27.8	97	ESE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Monongahela, Yokohama, Japan	29.98‡	761.6‡	.....	.....	80	26.7	96	SW	.....	.....	1-2	.....	cs	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.21‡	767.8‡	.....	.....	84	28.9	75	SSE	16	7.2	.....	.....	2	.....	Var.	0	0	.....	.....	Fair	
Onward, Callao, Peru†	29.99‡	761.7‡	.....	.....	60	15.6	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Cloudy	
Palos, Shanghai, China	29.68‡	753.9‡	.....	.....	80	26.7	96	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	.....	.....	.....	.....	74	23.3	95	SW	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	60	15.6	94	Calm	0	0	.....	.....	10	.....	S	.....	.....	Smooth	.....	Overcast	
Portsmouth, Boston, Mass.	30.15‡	765.8‡	.....	.....	73	22.8	76	NNW	.....	.....	1	.....	5	.....	N	0	0	Smooth	.....	Fair	
Powhatan, N. 34° 54′, W 75° 25′	30.27‡	768.8‡	.....	.....	82	27.8	79	SW	.....	.....	3	.....	5	.....	SW	0	0	Mod'ate	S;E	Fair	
Quinnebaug, Monichia, Aegean Sea, Greece	29.88‡	758.9‡	.....	.....	85	29.4	44	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Rapidan, Ningpo, China	29.71‡	754.6‡	.....	.....	84	28.9	91	NE	.....	.....	0-1	.....	8	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Richmond, Yokohama, Japan	29.96‡	761.0‡	.....	.....	80	26.7	82	SW	.....	.....	1	.....	5?	.....	.....	0	0	Smooth	.....	Clear?	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡	.....	.....	76	24.4	95	SSE	.....	.....	1	.....	2	.....	SE	0.14	3.6	.....	.....	Fair	
Santee, Annapolis, Md.	30.17‡	766.3‡	.....	.....	74	23.3	90	W	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Hazy	
Saratoga, New London, Conn.	30.14‡	765.5‡	.....	.....	72	22.2	95	SW	.....	.....	1	.....	8	.....	S	0	0	.....	.....	Blue sky	
St. Louis, League Island, Pa	30.16‡	766.0‡	.....	.....	74	23.3	90	SW	4	1.8	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Trenton, Copenhagen, Denmark	29.99‡	761.7‡	.....	.....	69	20.6	65	SE	.....	.....	1-2	.....	5	.....	SSE	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal.	29.77‡	756.1‡	.....	.....	71	21.7	85	Calm	.....	.....	0	.....	8	.....	Calm	0	0	Smooth	.....	Hazy	
Vandalia, N. 35° 02′, W. 75° 12′	30.30‡	769.6‡	.....	.....	82	27.8	83	SSW	.....	.....	2	.....	5	.....	S	0	0	Long	E	Fair	
Wabash, Boston, Mass.	30.15‡	765.8‡	.....	.....	75	23.9	86	SE	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 28° 15′, W. 88° 40′	30.04‡	763.0‡	.....	.....	85	29.4	83	SSE	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Fair	
Wyoming, Piraeus, Greece	29.88‡	758.9‡	.....	.....	84	28.9	37	NNE	.....	.....	3-5	.....	0	.....	.....	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitemar.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Cannon.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 35° 29′, E. 164° 55′		30.16‡	766.1‡				NNE			7				NNE		High	NE		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 38° 16′, E. 150° 40′ †		29.91‡	759.7‡	72	22.2	90	Var.			2		Fog			0	Smooth		Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 37° 58′, W. 123° 00′ †		30.20‡	767.1‡	58	14.4		NW			6		k		NW	0	Rough	NNW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf Between Swatow and Amoy, China?		29.61‡	752.1‡	80	26.7	95	Var.			1		6		ENE		Smooth		D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 44° 29′, W. 37° 15′		30.10‡	764.6‡	69.6	20.8	77	W			2		2		W	0	Smooth	W	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio. N. 38° 20′, W. 78° 34′		30.24‡	768.1‡				WSW			4		8		W		2	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa?		29.92‡?	760.07‡	73	22.8	90	W			2		1		SW	0			Clear	Captain R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross																			W. Randall
Nordenskiold of Sundsvall, Sweden																			Capt P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

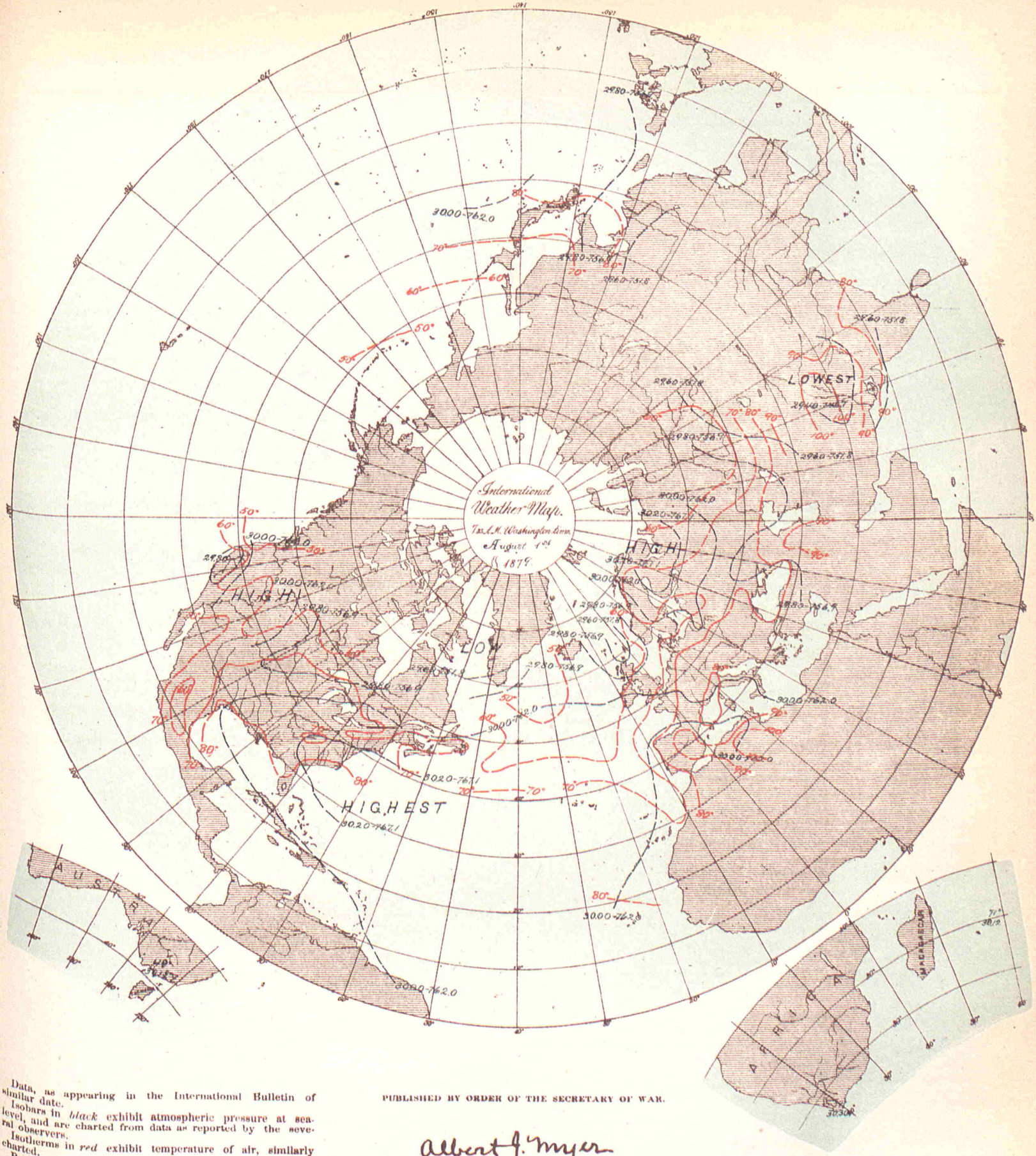
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 2, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	761.9	69.4	20.8	88	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.97	761.1	80.2	26.8	87	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.94	760.4	79.2	26.2	67	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	29.98	761.4	82.4	28.0	79	ENE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.98	761.5	90.8	32.4	22	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Herbin.
Geriville	.....	.....	30.00	762.1	90.5	32.5	32	NE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	79.2	26.2	41	NNW	.....	.....	2	.....	0	.....	.....	0.039	1.0	Clear	Brugnlaux.
Biskra	.....	.....	29.94	760.4	93.9	34.4	37	SE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
.....	.....	.....	29.97	761.1	100.9	38.3	25	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given: The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.45	748.0	29.96	761.0	68.9	31.6	61	Calm	.....	.....	0	.....	1	.....	.....	Inap	Inap.	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.1	30.03	762.8	75.2	24.0	49	NNW	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.09	738.9	29.93	760.2	75.0	24.4	49	N	.....	.....	3	.....	4c;s	.....	S	0.068	1.72	.....	Julius Mikolik.
Gratz	28.78	731.0	29.95	760.8	83.8	28.8	61	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.50	723.9	29.85	758.1	78.8	26.0	42	W	.....	.....	3	.....	3	.....	.....	0.024	0.6	.....	Prof. A. Gottschling.
Kremsmünster	28.72	729.4	29.98	761.5	83.5	28.6	70	WNW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.94	735.0	29.89	759.1	70.7	21.5	63	S	.....	.....	3	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.88	758.9	29.98	761.6	86.0	30.0	54	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.48	748.9	29.93	760.3	80.2	26.8	43	NW	.....	.....	6	.....	4	.....	.....	0.031	0.8	.....	G. Sanctjohanzer.
Szegedin	29.64	752.8	29.90	759.5	80.6	27.0	64	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.7	30.01	762.3	85.3	29 6	70	Calm	.....	.....	0	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.32	744.8	30.05	763.3	82.4	28.0	58	N	.....	.....	1	.....	3	.....	.....	0.059	1.5	.....	I. R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.97	761.2	30.07	763.8	62.6	17.0	.....	WNW	11	4.9	.....	.....	2	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.12	765.0	30.14	765.5	59	15.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.96	761.0	30.19	766.8	58.8	14.9	.....	NNW	2	0.9	.....	.....	4	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	61.4	16.3	.....	NW	12	5.4	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	30.14	765.5	64.1	17.8	.....	ENE	36	16.1	.....	.....	10	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.76	755.9	30.16	766.1	63.0	17.2	.....	NW	.....	.....	2	.....	6	.....	.....	0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	85	29.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	30.05	763.3	30.14	765.5	70.0	21.1	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	Misty	H. Todd.
Cardington	.....	.....	30.12	765.0	68.0	20.0	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	30.02	762.5	30.14	765.5	64.9	18.3	.....	NE	.....	.....	5	.....	3	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper. R. E.
Donaghadee	30.15	765.8	30.19	766.8	60	15.6	.....	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Mac Gowan.
Dover	30.08	764.0	30.11	764.8	64	17.8	.....	E	.....	.....	5	.....	3	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.80	756.9	30.02	762.5	58.0	14.4	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier (Natal)	27.82	706.6	30.11	764.8	68.0	20.0	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.98	761.5	83	28.3	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.10	764.5	63	17.2	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.96	761.0	80.2	26.8	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.92	760.0	30.13	765.3	61.0	16.7	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.17	766.3	30.18	766.6	62	16.7	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.96	761.0	30.13	765.3	68.9	20.5	.....	ESE	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	The Staff, for G.B.Airy.
Guernsey	29.70	754.4	29.92	760.0	61	16.1	.....	ENE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.98	761.5	30.10	764.5	60	15.6	.....	E	.....	.....	3	.....	10n	.....	.....	0.63	16.0	Raining	M. P. Moyle.
Holyhead	30.15	765.8	30.16	766.1	59	15.0	.....	NNE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.71	754.6	30.00	762.0	66.5	19.2	.....	ENE	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	30.07	763.8	30.11	764.8	67.8	19.9	.....	E	24	10.7	.....	.....	5	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.89	759.2	30.14	765.5	67.8	19.9	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	80.6	27.0	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.94	760.5	30.03	762.7	61	16.1	.....	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.06	763.5	84.0	28.9	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D clouds	C. S. Duncombe.
Nottingham, Observatory	29.97	761.2	30.16	766.1	70.3	21.3	.....	NE	.....	.....	4	.....	2k	.....	ENE	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.62	752.3	30.13	765.3	66.0	18.9	.....	NE	.....	.....	3-4	.....	7	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.11	764.8	67	19.4	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.95	760.7	30.03	762.7	61.9	16.6	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.00	762.0	30.18	766.6	63	17.2	.....	ESE	.....	.....	5	.....	2	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.94	760.5	30.17	764.8	61	16.1	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.95	760.7	55.2	12.9	.....	WSW	34	15.2	.....	.....	10	.....	.....	0.29	7.4	Overcast	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.74	755.4	29.80	756.9	89.6	32.0	.....	NE	.....	.....	2	.....	1	.....	.....	Blank	Blank	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.90	759.4	30.17	766.3	66.9	19.4	.....	NNE	.....	.....	1	.....	2	.....	.....	0.51	13.0	Blue sky	W. F. Cooper.
Silloth Rectory	30.14	765.5	30.17	766.3	65.7	18.7	72	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.17	766.5	64.9	18.3	.....	NE	2	0.9	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	68.0	20.0	.....	NE	.....	.....	4-5	.....	6	.....	.....	.....	.....	Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.98	761.5	29.99	761.7	63	17.2	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	30.06	763.5	30.09	764.3	66.7	18.7	.....	ENE	11	4.9	.....	.....	5	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.06	763.5	30.10	764.5	63.0	17.2	.....	SE	8.0	1.8	.....	0	2	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.14	765.5	63.4	17.4	.....	W	.....	.....	3	.....	8k	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.3	69.5	20.8	66	E	18.0	8.0	.....	.....	10	.....	.....	.....	.....	Showery	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	53.8	12.1	65	NNW	17	7.6	.....	.....	7	.....	.....	0.01	0.3	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 9 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 55'. E. 28° 45'	.....	.....	29.81‡	757.2‡	76	24.4	N	.....	4	0	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 43° 20', W. 50° 45'	.....	.....	30.06	763.5	59	15.0	SE	.....	1	10	.....	2	.....	Foggy	Capt. Wm. Watson.
Atmosphere, N. 46° 10' W. 40° 35'	.....	.....	30.00	762.0	67	19.4	WSW	.....	6	5	.....	5	SW	D. clouds	.....
Barque Commewyne, N. 40° 40', W. 43° 30'	.....	.....	30.13‡	765.3‡	72.7	22.6	ENE	.....	1	1	.....	.....	.....	Blue sky	Capt. A. Buchan.
Gordon Castle, N. 41° 10', W. 31° 05'	.....	.....	30.17	766.3	80	26.7	W	.....	2	4	.....	2	con-fused	D. clouds	.....
German Brig "W. von Freeden" N. 31° 15', W. 72° 45'	.....	.....	30.23	767.8	83	28.3	ENE	.....	4	5	.....	4	SSE	D. clouds	Capt. H. v. Freeden.
Theophane, N. 13° 15', W. 24° 55'	.....	.....	29.99‡	761.7‡	80.6	27.1	SW	.....	2	9	.....	.....	.....	Showery	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made us to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.24	666.5	29.98	761.0	68.9	20.5	91	NE	.....	.....	1	4cs	.....	E	.....	0.32	8.1	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.04	763.0	30.09	764.2	63.5	17.5	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	Raining
Fanöe	30.12	765.0	30.14	765.5	64.6	18.1	70	NW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.65	753.2	29.70	754.3	45.9	7.7	94	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Raining
Stykkisholm (Iceland)	29.94	760.5	29.98	761.6	50.4	10.2	79	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.43	747.6	29.47	748.5	63.1	11.7	94	NW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.00	762.5	30.17	766.3	61.3	16.3	80	W	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.44	747.8	29.99	761.8	76.6	24.8	77	NE	.....	.....	2	.....	2cn	.....	.....	0	0	Slightlycl'dy	Collignon, Director.
Amiens, Normal School	29.96	760.9	29.98	761.6	74.8	23.8	66	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bouvallet, Director.
Arras, Englin'r School	29.83	757.7	30.08	764.1	69.3	20.7	69	E	.....	.....	2	.....	.....	.....	E	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.95	760.6	30.02	762.6	69.2	31.8	39	W	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.43	747.6	29.95	760.7	67.3	30.7	58	SE	.....	.....	1	.....	8k	.....	W	0	0	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.77	756.1	30.02	762.6	73.4	23.0	65	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Frere Eugene Marie.
Besançon, Normal School	29.11	739.5	29.96	760.8	87.6	30.9	58	E	.....	.....	1	.....	2	E	.....	0	0	Slightlycl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.2	30.12	765.0	83.2	31.2	56	SW	.....	.....	1	.....	8cs	SW	SW	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.40	746.7	29.91	759.8	82.4	28	66	E	.....	.....	3	.....	ck	SW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.67	761.0	29.81	757.2	65.8	18.8	92	NE	.....	.....	2	.....	8	.....	NE	0.010	0.25	Thunder	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.55	750.5	29.94	760.5	82.8	28.2	46	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.91	759.7	29.98	761.6	73.4	23	66	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Bietrin, Director.
Chartres, Normal School	29.43	747.4	29.96	760.9	82.8	28.2	83	E	.....	.....	2	.....	3	.....	NE	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.73	755.2	30.03	762.7	85.3	29.6	67	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.60	726.5	29.85	758.3	93.0	33.9	22	SE	.....	.....	1	.....	5	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.19	741.5	30.00	762.0	83.8	28.8	61	ENE	.....	.....	1	.....	5ck	ENE	ENE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.95	735.4	30.10	764.4	86.0	31.1	38	S	.....	.....	2	.....	2	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.25	743.0	30.07	763.6	79.2	26.2	59	NW	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.69	754.2	29.89	759.3	85.6	29.8	65	NNW	.....	.....	1	.....	5	.....	SSW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.63	752.6	29.92	759.9	83.5	28.6	71	ESE	.....	.....	3	.....	2	.....	SE	0	0	Slightlycl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.12	739.6	30.0	761.9	83.5	29.7	63	SW	.....	.....	1	.....	cn	SW	SW	0	0	.....	A. Baudry, Director.
Lorient, Naval Observatory	29.79	756.7	29.89	759.3	75.2	24.0	80	ENE	.....	.....	1	.....	.....	E	NE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	746.1	29.95	760.8	85.1	29.5	52	SSE	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.74	755.3	30.00	762.0	82.9	28.3	40	W	.....	.....	0-1	.....	1	.....	W	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.00	736.5	29.98	761.4	83.5	28.8	55	NNE	.....	.....	1	.....	10ks	NNE	NNE	.....	.....	Covered	Barbier, Director.
Mont-Louis	24.99	634.7	30.30	769.7	81.5	27.5	23	SSW	18.6	8.3	.....	.....	.....	.....	.....	0	0	.....	M. Clave
Nice	30.00	762.1	30.04	763.0	83.5	28.6	69	ESE	.....	.....	1	.....	1	E	ESE	0	0	Hazy	M. Boissiéré, Director.
Nismes, Normal School	29.81	757.1	30.00	761.9	93.9	34.4	33	SW	.....	.....	1	.....	2	.....	N	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.72	755.0	79.2	26.2	63	NE	.....	.....	2	.....	1	.....	SW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.73	577.3	.....	.....	68.9	20.5	.....	SW	.....	.....	2	.....	1	N	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.88	758.9	29.98	761.5	75.2	24.0	83	SE	11.2	5.0	.....	.....	9	.....	NE	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.33	643.3	.....	.....	69.8	21.0	46	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.96	760.9	29.99	761.7	87.4	30.8	52	E	.....	.....	1	.....	5	SW	SW	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.66	753.5	29.95	760.6	77.9	25.5	57	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.91	759.6	29.94	760.4	74.8	23.8	67	NE	.....	.....	3	.....	1	NE	NE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.83	757.6	30.00	761.9	80.6	27.0	65	NE	.....	.....	2	.....	1	SSW	SE	.....	.....	.....	E. Renou, Director.
Tarbes, Normal School	29.98	736.0	29.97	761.8	95.9	35.5	59	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.23	742.4	29.95	760.8	84.6	29.2	72	SSE	.....	.....	5	.....	1	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.69	754.1	29.89	759.1	88.5	31.4	65	ESE	.....	.....	2	.....	0	.....	.....	0	0	Light haze	Cousin-Marquet.
Versailles, Observatory	29.52	749.8	30.01	762.3	79.2	26.2	58	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.1	29.97	761.1	87.6	31	59	SE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.47	12.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.81	757.1	29.83	757.7	79.3	21.3	91	SE	13.9	6.2	.....	10cs	ck	.....	S	0	0	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,536.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 130.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.3	30.03	762.8	82.8	28.2	46	S	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.91	759.6	30.07	763.8	78.6	25.9	58	NW.	.....	.....	1	.....	3	.....	.....	0.016	0.4	.....	Prof. Dr. Arndt.
Breslau	29.56	750.8	30.09	764.3	77.5	25.3	57	NNE	.....	.....	3	.....	4	.....	.....	0	0	.....	Royal University Ob's'y.
Carlsruhe	29.60	751.8	30.00	762.0	87.8	31.0	53	NE	.....	.....	1	.....	4	NW	.....	0	0	.....	Albert Senz.
Cassel	29.55	750.5	30.16	766.0	75.6	24.2	70	N	.....	.....	4	.....	3	N	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.94	760.4	30.10	764.5	77.0	25.0	56	N	.....	.....	2	.....	5k	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.17	766.2	67.8	19.9	60	NE	.....	.....	2	.....	0	.....	.....	0.008	0.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.71	754.5	30.07	763.6	84.0	28.9	.....	N	.....	.....	1	.....	5	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	30.02	762.4	30.06	763.4	79.3	26.3	71	NW	.....	.....	2	.....	4k;ks	NW	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.63	727.1	29.98	761.5	80.6	27.1	76	SE	.....	.....	2	.....	2	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	30.06	763.4	30.12	765.1	72.7	22.6	65	NW	.....	.....	4	.....	5k	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	30.10	764.4	30.11	764.8	68.0	20.0	79	NNE	.....	.....	2	.....	8	.....	.....	0.535	13.60	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.98	761.5	30.06	763.5	72.1	22.3	68	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.05	763.2	74.8	23.8	.....	Calm	.....	.....	0	.....	1	.....	.....	0.016	0.4	.....	H. Müller.
Leipsic Observatory	29.67	753.5	30.07	763.6	82.0	27.8	54	N	.....	.....	1	.....	9	WNW	.....	0.228	5.8	Thunder-storm	Prof. Bruhns, Privy Counselor.
Memel	29.99	761.8	30.04	763.0	71.8	22.1	69	NW	.....	.....	2	.....	8k	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.30	718.7	30.17	766.2	82.9	28.3	44	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	30.09	764.3	30.11	764.7	66.2	19.0	81	NNE	.....	.....	1	.....	1	.....	.....	0	0	.....	A. Lothes.
Posen	29.85	758.3	30.13	765.3	75.7	24.3	51	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.50	749.4	30.02	762.6	86.0	30.0	56	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	Imp. University Observatory
Stuttgart	29.09	738.8	29.96	761.0	87.8	31.0	41	E	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.60	726.4	30.02	762.4	81.9	27.7	51	NE	1.1	0.5	.....	.....	7k	.....	W	0	0	Hazy	T. Hopfner.
Wustrow	30.09	764.2	30.11	764.8	67.5	19.7	85	NNW	.....	.....	2	.....	4k	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.49	749.0	29.86	758.4	89.1	31.7	.....	NE	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.4	29.48	748.6	82.7	28.2	75	NW	9.0	4.0	.....	.....	7	SSW	NW	0	0	D. clouds	
Deesa	29.06	738.1	29.52	749.8	88.1	31.2	59	SSW	18.9	8.4	.....	.....	10	.....	.....	.....	.....	Drizzling	
Bombay	29.64	752.8	29.68	753.7	76.1	24.5	98	WNW	17.0	7.6	.....	.....	10	.....	WNW	1.04	26.4	Raining	
Poona	27.82	706.8	29.69	754.1	72.3	22.4	90	WSW	15.0	6.7	.....	.....	10	.....	W	0.02	0.5	Overcast	
Lahore	28.61	726.6	29.30	744.3	102.8	39.3	32	E	2.6	1.2	.....	.....	10	.....	.....	0	0	Overcast	
Belgaum	27.19	690.6	29.75	755.6	69.0	20.6	94	W	21.0	9.4	.....	.....	10	W	W	0.14	3.6	Overcast	
Roorkee	28.60	726.4	29.49	749.1	77.5	25.4	95	S	3.6	1.6	.....	.....	10	.....	.....	1.58	40.1	Gloomy	
Agra	28.91	734.4	29.47	748.5	84.2	29.0	81	SE	.....	.....	.....	.....	10	.....	S	0	0	.....	
Nagpur	28.47	723.1	29.50	749.4	77.7	25.4	80	NW	7.2	3.2	.....	.....	10	.....	E	0.09	2.3	Overcast	
Lucknow	29.10	739.0	29.46	748.3	86.2	30.1	96	Calm	0.1	0.04	.....	.....	10	.....	.....	0.02	0.5	Overcast	
Allahabad	29.18	741.0	29.48	748.9	80.2	26.8	95	NE	2.8	1.2	.....	.....	10	.....	W	0.52	13.2	Overcast	
Patna	29.25	742.9	29.43	747.4	86.8	30.4	77	ESE	0.8	0.4	.....	.....	6	SE	SE	0	0	D. clouds	
Hazaribagh	27.44	697.0	29.42	747.2	80.3	26.8	83	E	7.4	3.3	.....	.....	9	.....	E	0.12	3.0	Thunder-storm	
Cuttack	29.34	745.2	29.42	747.2	83.3	28.5	81	SW	2.0	0.9	.....	.....	10	.....	.....	0.32	8.1	Raining	
Calcutta (Alipore)	29.42	747.2	29.44	747.8	84.9	29.4	76	SE	9.0	4.0	.....	.....	6	E	SE	0	0	D. clouds	
Goalpara	29.13	740.0	29.52	749.7	83.8	28.8	79	Calm	4.2	1.9	.....	.....	10	.....	.....	0.08	2.0	Overcast	
Chittagong	29.45	748.0	29.54	750.2	83.7	28.7	83	SW	5.8	2.6	.....	.....	9	.....	.....	.....	.....	Drizzling	
Sibsagar	29.23	742.5	29.56	750.9	84.0	28.9	83	Calm	1.6	0.7	.....	.....	10	W	W	1.06	26.9	D. clouds	
Jubbulpore	28.12	714.3	29.48	748.9	74.8	23.8	95	N	3.3	1.5	.....	.....	10	.....	NE	0.31	7.9	Drizzling	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,365 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.60	751.9	29.96	761.8	90.9	32.7	32	SW	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.50	749.4	30.00	762.0	91.2	32.9	45	SSE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.88	759.0	29.99	761.7	89.6	32.0	37	S	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.9	30.00	761.9	87.6	30.9	43	WSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	758.0	30.02	762.6	81.3	27.4	69	SW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.17	715.4	29.98	761.6	87.1	30.6	38	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.00	762.1	83.1	28.4	45	N	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.73	755.1	29.97	761.3	93.2	34.0	25	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.3	30.02	762.4	79.5	26.4	75	W	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.3	29.98	761.6	89.2	31.8	42	S	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.5	29.95	760.7	81.3	27.4	50	ENE	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.0	29.93	760.3	88.9	31.6	60	NW	1 8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.5	30.01	762.2	80.6	27.0	67	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.77	756.1	30.01	762.3	78.8	25.7	62	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.90	759.5	30.00	761.9	86.5	30.3	37	SSE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.5	30.02	762.6	83.3	28.5	68	WSW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.96	761.0	81.1	27.3	75	WSW	1.3	0.6	.....	.....	4ck	.....	.....	0	0	Dull	K. Sasaki.
Nagasaki, I. M. Obs'y	29.79	756.6	29.93	761 7	78.4	25.8	85	WSW	0 8	0.4	.....	.....	2ck;cs;s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.89	759.2	29.95	760.7	79.7	26.5	80	E	4.1	1.8	.....	10ck;cs	0	E	.....	0	0	Cloudy	The Staff.
Wakayama	29.89	759.2	29.94	760.5	81.0	27.2	84	S	2.3	1.0	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	635.9	30.04	763.0	58.1	14.5	78	Calm	.....	.....	0	.....	8	.....	SE	0.33	8.4	Cloudy	Prof. L. Pere.
Leon	24.42	620.2	30.00	762.1	66.6	19.2	75	W	.....	.....	2	6c	0	SW	.....	0	0	½ clouded	Prof. M. Leal.
Mexico, Central Obs'y	24.06	585.6	30.02	762.4	57.2	14.0	82	Calm	0	0	.....	.....	10k	.....	NE	0.03	0.8	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.9	16.6	77	Calm	.....	.....	0	3c	2ks	E	E	0	0	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.90	759.5	29.91	759.8	74.5	23.6	96	NW	.....	.....	1	.....	10	.....	S	0.83	21.0	Raining	Prof. M. M. Chazaro.
San Luis Potosi	24.24	615.6	30.17	766.3	61.0	16.1	47	E	.....	.....	1	.....	10	.....	E	0.05	1.3	Covered	G. Barreda, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.57	573.3	30.11	764.9	58.6	14.7	78	E	.....	.....	1	9ck	0	SE	.....	0	0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.38	593.9	30.18	766.6	52.7	11.5	82	NW	0.4	0.2	.....	9c	.....	.....	SE	0.03	0.7	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.60	751.9	29.89	759.2	79 0	26.1	93	SE	.....	.....	1	.....	9n	.....	SE	0	0	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.15	765.8	30.15	765.8	70.0	21.1	.....	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.12	765.0	30.17	766.4	.....	.....	.....	N	.....	.....	0	.....	.....	.....	.....	0.008	0.2	.....	
Helder	30.17	766.3	30.17	766.3	64.8	18.2	.....	NNE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.15	765.8	30.15	765.8	69.4	20.8	63	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.11	764.8	30.16	766.0	69.8	21.0	60	NNE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instru'tal error and temperature. Inches.	Barometer: Corrected for instru'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.96	761.0	30.02	762.4	62.6	17.0	72	SSW	25.3	11.3	.....	.....	4	.....	.....	0.236	6.0	.....	
Brönö	29.92	759.9	29.96	760.9	60.4	15.8	77	SSW	22	10	.....	.....	8	.....	.....	0.394	10.0	.....	
Christiania	29.85	758.1	29.99	761.7	66.4	19.1	82	S	7	3	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.99	761.8	30.04	762.9	75.6	24.2	39	SW	25	11	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Augra (Azores)	29.95	760.8	30.14	765.5	73.0	22.8	69	NE	9.8	4.4	.....	.....	4	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	28.93	734.7	29.89	759.1	89.2	31.8	23	SE	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.96	761.0	30.05	763.2	74.5	23.6	74	SW	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.62	752.3	29.97	761.3	70.7	21.5	70	SW	13.7	6.1	.....	.....	8	WSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.07	763.6	30.15	765.8	77.4	25.2	61	SSE	0.7	0.3	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A .M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	1	WNW	D. clouds	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	.....	A. A. A. Loureiro.
Sá da Bandeira	1	NE	D. clouds	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	0	Overcast		J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.62	752.3	30.02	762.6	71.4	21.9	55	N	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.62	752.4	30.03	762.7	69.3	20.7	64	SE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.87	758.6	30.10	764.5	75.7	24.3	47	ENE	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.11	764.7	30.12	765.1	69.4	20.8	41	NNE	11	5	.....	.....	2s;cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.17	740.9	29.79	756.7	59.7	15.4	100	NE	7	3	.....	.....	10ksn	.....	.....	Raining	.....	.....	Physical Cabinet.
Nikolaiev	29.70	754.6	29.78	756.4	74.8	23.8	74	NE	4	2	.....	.....	10n	.....	.....	Raining	.....	.....	Kurdakof.
Kertch	29.78	756.3	29.80	756.8	79.1	26.1	73	SW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.38	746.2	29.91	759.6	65.5	18.6	70	NW	7.8	3.5	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.43	747.5	29.63	752.6	69.1	20.6	79	W	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.24	768.0	30.26	768.5	60.1	15.9	51	NNE	9	4	.....	.....	5cs	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.32	719.2	29.63	752.7	88.1	31.1	38	NW	13	6	.....	.....	7cs	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.80	756.9	29.72	754.8	87.1	30.6	23	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.41	747.0	29.85	758.3	77.2	25.1	29	NE	2	1	.....	.....	4ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.61	752.2	29.88	758.9	61.9	16.6	82	S	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.87	733.4	29.34	757.9	45.7	7.6	77	NW	27	12	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.60	749.4	29.72	754.9	91.5	33.3	35	ENE	11	5	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.13	714.4	29.68	761.2	89.2	31.8	28	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.19	741.5	29.84	757.8	61.3	16.3	87	SW	7	3	.....	.....	9	.....	.....	Light clouds	.....	.....	Meteorological Obs.
Yeniseisk	29.52	749.8	29.80	756.8	66.2	19.0	72	NNE	2	1	.....	.....	6	.....	.....	Raining	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.67	753.6	29.81	757.2	79.5	26.4	78	Calm	0	0	.....	.....	6k	.....	.....	Thunder-storm	.....	.....	Physical Observat ory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.84	757.8	29.93	760.3	67.6	19.8	92	SE	2	1	.....	.....	10n	.....	.....	Heavy fog	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.57	751.0	29.67	753.6	79.7	26.5	73	ESE	8.8	1.72	.....	.....	0	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.97	761.2	30.02	762.6	93.6	34.2	43	SE	4.2	1.86	.....	5	3	SW	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.1	.....	.....	91.0	32.8	26	SW	5.3	2.35	.....	0	7	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.75	704.8	29.79	756.6	96.8	36.0	23	S	5.2	2.33	.....	1	5	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	761.0	91.8	33.2	45	NNE	5.0	2.25	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.0	29.84	758.0	71.4	21.9	75	SW	13.0	5.8	.....	0	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.4	30.00	762.0	82.3	27.9	78	E	17.4	7.8	.....	1c	1k	NE	E	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.81	757.2	80.1	26.7	90	SSW	4.9	2.2	.....	4c	5kn	E	W	1.339	34.0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.8	29.93	760.1	89.8	32.1	46	SE	8.6	3.9	.....	3	5	N	N	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.7	30.00	762.0	81.3	27.4	84	SE	.....	.....	.....	4ks	2k	SE	SE	0.600	15.25	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.21	767.4	30.25	768.4	75.6	24.2	.....	SE	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	30.12	765.0	30.17	766 3	75.9	24.4	46	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.02	762.5	30.07	763.8	73.8	23.2	78	S	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.92	760.0	30.10	764.5	71.2	21.8	62	SE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.97	761.2	30.03	762.7	64.8	18.2	92	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.98	761.5	30.07	763.7	72.5	22.5	59	SSE	14.8	6.6	.....	.....	5	WSW	SSE	0.060	0.01	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 57° 46', E. 10° 38'	30.12	765.1	30.18	765.3	62.2	16.8	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.2	29.98	761.6	60.2	26.8	61	N	.....	.....	1	.....	3	.....	.....	0	0	Smoky	The Observatory.
Zurich	28.45	722.5	29.98	761.5	86.7	30.4	.....	E	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −0.6 mm.; Thermometer, +4.3 Cent.; Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.8	79.0	26.1	49	NNE	17	7.6	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.8	81.0	27.2	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.58	751.3	29.69	754.2	90.0	32.2	53	SW	.....	.....	3	.....	1k	.....	SW	0	0	D clouds	Prof. C.V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.68	767.7	29.89	759.2	71	21.7	81	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Biah.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	69	20.6	81	SW	6	2.7	.....	5ck	0	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.69	754.1	29.87	758.7	75.5	24.2	69	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.71	754.6	29.86	758.4	66.2	19.0	91	W	.....	.....	1	0	2s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.79	756.7	29.81	757.2	60	15.6	99	Calm	0	0	.....	2k	Fog	W	Calm	0.20	5.1	Foggy	*J. McWilliams.
Fredericton, N. B	29.59	759.2	29.95	760.7	73.1	22.8	80	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.15	740.4	29.97	761.2	52	11.1	83	W	14	6.3	.....	0	0	.....	.....	0.130	3.30	Clear	James Stewart.
Granton, Ontario	28.93	734.8	29.97	761.2	77	25.0	77	SW	.....	.....	2	1c	0	NW	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.59	759.2	30.00	762.0	74	23.3	73	S	1	0.4	.....	5c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.67	753.6	30.01	762.2	77.0	25.0	86	NW	.....	.....	1	4ck	0	NW	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.98	761.5	73	22.8	82	SW	7	3.1	.....	2c	Haze	Calm	SW	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.91	759.7	69.8	21.0	76	SW	5	2.2	.....	7ck	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.70	754.4	29.89	759.2	74	23.3	71	W	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	29.95	760.7	69	20.6	90	NW	1	0.4	.....	.....	10n	.....	W	0.03	0.8	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.24	742.7	29.94	760.5	80.9	27.2	65	SW	.....	.....	3	2k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.01	762.2	75	23.9	95	SW	12	5.4	.....	8ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.84	757.9	29.88	758.9	66.6	19.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.02	762.5	76	24.4	69	W	13	5.8	.....	5ck	0	W	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.59	751.6	29.89	759.2	73	22.8	78	W	.....	.....	1	.....	5s	.....	W	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.84	757.9	66	18.9	91	Calm	0	0	.....	...	10n	.....	.....	0.28	7.1	Heavy rain	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.96	761.0	62	16.7	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.80	756.9	29.97	761.2	58	14.4	94	S	5	2.2	.....	.....	Fog	.....	.....	0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.91	759.7	73	22.8	78	SW	9	4.0	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	29.19	741.4	29.93	760.2	77	25.0	69	SW	1	0.4	.....	10k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Strafford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.91	759.7	29.95	760.7	71	21.7	77	SW	2	0.9	.....	8cs	0	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.03	752.0	30.00	762.0	72	22.2	68	SW	10	4.5	.....	5ck	2s	W	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.94	760.5	29.96	761.0	80.0	26.7	78	S	1	0.4	.....	3k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.80	756.9	30.04	763.0	64.0	17.8	83	SW	.....	.....	.....	10c	10s	.....	.....	0	0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Strafford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.84	757.9	30.06	763.5	76	24.4	73	S	2	0.9		0	Haze			0	0	Clear	
Alpena, Michigan	29.22	742.2	29.82	757.4	77	25.0	57	SW	20	8.9		5c	0	W		0.10	2.5	Fair	
Atcha, Aleutian Is, Alaska					48	8.9	100	W	6	2.7			10s		W	0	0	Cloudy	
Atlanta, Georgia	29.04	737.6	30.16	766.1	68	20.0	94	E	11	4.9			10n		Calm	0.69	17.5	Light rain	
Atlantic City, New Jersey	30.12	765.0	30.13	765.3	76	24.4	82	W	8	3.6		0	0			0	0	Clear	
Augusta, Georgia	30.04	763.0	30.24	768.1	78	25.6	82	SE	2	0.9			10s		SW	0.11	2.8	Cloudy	
Baltimore, Maryland	30.12	765.0	30.16	766.1	78	25.6	65	W	8	3.6		0	Sm'e		Calm	0	0	Clear	
Barnegat, New Jersey	30.10	764.5	30.12	765.0	80	26.7	78	W	10	4.5		0	0			0	0	Clear	
Bismarck, Dakota	28.34	719.8	30.19	766.8	54	12.2	74	NW	1	0.4		0	0			0.07	1.8	Clear	
Boerne, Texas	28.59	726 2	29.85	758.2	79	26.1	82	SE	1	0.4		0	0			0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	54	12.2	38	NE	3	1.3		0	0			0	0	Clear	
Boston, Massachusetts	29.89	759 2	30.04	763.0	78	25.6	73	W	8	3.6		1c	0	Calm		0	0	Clear	
Brackettville, Texas	28.87	733.3	29.85	758.2	81	27.2	63	E	6	2.7		0	2s		Calm	0	0	Fair	
Breckenridge, Minnesota	29.09	738.9	30.09	764.3	48	8.9	85	W	5	2.2		2ck	5ks	Calm	W	0	0	Cloudy	
Brownsville, Texas	29.92	760.0	29.98	761.5	79	26.1	82	SE	1	0.4		0	0			0.13	3.3	Clear	
Buffalo, New York	29.34	745.2	30.01	762.2	76	24.4	73	SW	9	4.0		2cs	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					80	26.7	48	Calm	0	0		0	0			0.73	18.5	Clear	
Burlington, Vermont	29.69	754.1	29.96	761.0	78	25.6	61	SW	13	5.8		5ck	0	NW		0	0	Fair	
Cairo, Illinois	29.76	755.9	30.13	765.3	82	27.8	75	S	3	1.3		0	0			0	0	Clear	
Campo, California	27.32	693.9	29.88	758.9	59	15.0	88	E	2	0.9			10s		SE	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	80	26.7	82	SW	6	2.7		5cs	1ks	SW	SW	0	0	Fair	
Cape Henry, Virginia	30.19	766.8	30.20	767.1	79	26.1	78	SW	7	3.1			10ks		SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.22	767.6	30.24	768.1	81	27.2	78	SW	9	4.0		8cs	2ks	W	Calm	0	0	Cloudy	
Cape May, New Jersey	30.10	764.5	30.13	765.3	72	22.2	85	SW	14	6.3		0	0			0	0	Clear	
Castroville, Texas	29.24	742.7	29.92	760.0	77	25.0	82	SE	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	30.14	765.5	30.20	767.1	84	28.9	71	S	3	1.3		5k	0	SE		0	0	Fair	
Charlotte, North Carolina	29.40	746.7	30.20	767.1	70	21.1	95	NE	1	0.4			10s		Calm	0.18	4.6	Cloudy	
Chattanooga, Tennessee	29.40	746.7	30.18	766.6	70	21.1	95	SE	2	0.9			10n		SE	1.58	40.1	Light rain	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	62	16.7	94	SE	4	1.8			10s		Calm	0	0	Threatening	
Chicago, Illinois	29.32	744.7	29.97	761.2	77	25.0	65	SW	8	3.6		5ck	0	W		0	0	Fair	
Cincinnati, Ohio	29.52	749.8	30.14	765.5	76	24.4	73	S	5	2.2		1k	0	SW		0.58	14.7	Clear	
Cleveland, Ohio	29.37	746.0	30.06	763.5	75	23.9	72	S	8	3.6		0	0			0.54	13.7	Clear	
Coleman City, Texas	28.21	716.5	29.79	756.7	80	26.7	70	Calm	0	0		0	0			0	0	Clear	
Columbus, Ohio	29.30	744.2	30.10	764.5	76	24.4	69	SW	6	2.7		0	0			0	0	Clear	
Concho, Texas	28.11	714.0	29.70	754.4	77	25.0	69	S	2	0.9		0	0			0	0	Clear	
Corsicana, Texas	29.58	751.3	30.04	763.0	76	24.4	86	S	4	1.8		0	1s		Calm	0	0	Clear	
Davenport, Iowa	29.36	745.7	29.96	761.0	76	24.4	73	SW	7	3.1		0	5s		W	0	0	Fair	
Deadwood, Dakota	25.55	649.0			54	12.2	61	E	1	0.4		2k	2s	E	E	0.17	4.3	Fair	
Decatur, Texas	28.80	731.5	29.90	759.4	82	27.8	75	SE	2	0.9		0	0			0	0	Clear	
Denison, Texas	29.25	742.9	30.01	762.2	75	23.9	86	SE	6	2.7		2k	0	NE		0	0	Fair	
Denver, Colorado	24.89	632.2	30.12	765.0	63	17.2	63	NW	4	1.8		8ck	0	NW		0	0	Fair	
Des Moines, Iowa	29.08	738.6	29.91	759.7	77	25.0	61	NW	2	0.9		5k	0	NW		0	0	Fair	
Detroit, Michigan	29.37	746.0	30.00	762.0	74	23.3	76	SW	11	4.9		5ck	0	Calm		0	0	Fair	
Dodge City, Kansas	27.42	696.5	29.58	751.3	74	23.3	55	S	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.28	743.7	29.94	760.2	79	26.1	62	S	8	3.6		8k	0	S		0	0	Fair	
Duluth, Minnesota	29.28	743.7	29.94	760.5	59	15.0	70	NW	10	4.5		0	0			0	0	Clear	
Eagle Pass, Texas	29.24	742.7	29.94	760.5	80	26.7	70	SE	6	2.7		0	0			0	0	Clear	
Eastport, Maine	29.89	759.2	29.96	760.7	64	17.8	78	S	4	1.8		5c	Haze	W	Calm	0	0	Fair	
Edinburg, Texas					75	23.9	90	S			1	0	0			0	0	Clear	
El Paso, Texas	26.24	666.5			73	22.8	50	SE	2	0.9		0	0			0	0	Clear	
Erie, Pennsylvania	29.36	745.7	30.03	762.7	79	26.1	66	SW	10	4.5		0	0			0	0	Clear	
Escanaba, Michigan	29.17	740.9	29.78	756.4	75	22.9	81	SW	8	3.6		2k	0	SW		0.04	1.0	Fair	
Florence, Arizona	28.42	721.9	30.02	762.5	76	24.4	52	W	2	0.9		0	0			0.07	1.8	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.09	713.5	29.94	760.5	47	8.3	85	SW	3	1.3		1cs	0	NW		0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	70	21.1	53	Calm	0	0		0	5s		W	0	0	Fair	
Fort Gibson, Indian Ter	29.51	749.5	30.02	762.5	82	27.8	63	SE	5	2.2		0	0			0	0	Clear	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	71	21.7	62	E	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.77	730 7	29.99	761.7	76	24.4	73	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.54	699.5			54	12.2	73	N	4	1.8		0	0			0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.63	752.6	75	23.9	72	Calm	0	0		8ck	0	Calm		0	0	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.86	758.4	78	25.6	65	SE	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.30	718.8			50	10.0	86	W	3	1.3		1c	0	W		0	0	Fair	
Fort Verde, Arizona																			
Fort Yates, Dakota																			
Fredericksburg, Texas	28.32	719.3	29.82	757.4	77	25.0	57	S	2	0.9		5cs	0	S		0	0	Fair	
Galveston, Texas	30.02	762.5	30.06	763.5	81	27.2	83	S	3	1.3		0	2ks		S	0.58	22.4	Clear	
Graham, Texas	29.00	736.6	30.00	762.0	80	26.7	78	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.33	745.0	29.94	760.5	79	26.1	66	SW	14	6.3		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.06	738.1	29.96	761.0	76	24.4	73	SE	6	2.7		2cs	0	NE		0	0	Fair	
Indianapolis, Indiana	29.33	745.0	30.08	764.0	76	24.4	77	SE	4	1.8		0	0			Inap.	Inap.	Clear	
Indianola, Texas	30.03	762.7	30.06	763.5	81	27.2	74	S	13	5.8		1c	8ks	Calm	S	0.19	4.8	Fair	
Jacksboro, Texas	28.92	734.6	29.98	761.5	86	30.0	55	SE	6	2.7		0	0			0	0	Clear	
Jacksonville, Florida	30.16	766 1	30.18	766.6	82	27.8	79	E	2	0.9		2cs	0	Calm		0	0	Clear	
Keokuk, Iowa	29.37	746.0	29.95	760.7	80	26.7	70	SW	9	4.0		5cs	0	W		0	0	Fair	
Key West, Florida	30.00	762.0	30.04	763.0	84	28.9	75	E	14	6.3		2k	0	E		0.23	5.8	Fair	
Kittyhawk, North Carolina	30.15	765.8	30.18	766.6	79	26.1	82	SW	15	6.7		8cs	0	SW		0	0	Fair	
Knoxville, Tennessee	29.22	742.2	30.20	767.1	69	20.8	92	E	4	1.8			10ks		Calm	0.49	12.4	Threatening	
La Crosse, Wisconsin	29.18	741.1	29.87	758.7	77	25.0	73	SW	4	1.8		2k	0	W		0.05	1.3	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	65	18.3	53	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.93	760.2	81	27.2	55	SE	1	0.4		0	0			0	0	Clear	
Leavenworth, Kansas	29.15	740.4	29.95	760.7	75	23.9	72	S	5	2.2		4ck	0	SW		0	0	Fair	
Little Rock, Arkansas	29.78	756 4	30.12	765.0	76	24.4	91	Calm	0	0		5cs	0	Calm		0	0	Fair	
Los Angeles, California	29.48	748.8	29.81	757.2	59.5	15.3	91	W	2	0.9			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.58	751.3	30.12	765.0	75	23.9	77	SE	4	1.8		5k	2ks	S	Calm	0	0	Fair	
Lynchburg, Virginia	29.55	750.6	30.21	767.3	73	22.8	80	Calm	0	0			10s		SW	0.09	2.3	Cloudy	
Madison, Wisconsin	29.94	735.1	29.86	758.4	76	24.4	73	SW	15	6.7		8cs	0	W		0	0	Fair	
Marquette, Michigan	29.08	738.6	29.74	755.4	75	23.9	64	W	16	7.2		0	0			0.26	6.6	Clear	
Mason, Texas	28.42	721.9	30.10	764.5	77	25.0	77	SE	3	1.3		0	0			0	0	Clear	
Memphis, Tennessee	29.78	756.4	30.10	764.5	77	25.0	86	SE	2	0.9		5ck	5ks	SW	SE	0	0	Cloudy	
Milwaukee, Wisconsin	29.22	742 2	29.90	759.4	75	23.9	68	SW	11	4.9		8ck	1s	Calm	Calm	0	0	Cloudy	
Mobile, Alabama	30.10	764.5	30.14	765.5	79	26.1	91	SE	4	1.8		0	5ks		SE	0	0	Fair	
Montgomery, Alabama	29.95	760.7	30.18	766.6	75	23.9	92	S	3	1.3			10ks		S	1.09	27.7	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.20	741.7	30.14	765.5	79	26.1	66	SW	4	1.8	... .	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	24.00	609.6	30.36	771.1	53	11.7	86	NW	35	15.6	.....	0	2s; sm'e	.....	NW; Calm	0	0	Fair	
Nashville, Tennessee.....	29.63	752.6	30.14	765.5	80	26.7	78	SE	1	0.4	... ...	0	5ks	.....	SW	Inap.	Inap.	Fair.....	
New Haven, Connecticut.....	29.96	761.0	30.07	763.8	82	27.8	71	SW	4	1.8	... .	2c	Haze	Calm	Calm	0	0	Clear.	
New London, Connecticut...	30.03	762.7	30.07	763.8	79	26.1	74	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Dense haze..	
New Orleans, Louisiana.....	30.05	763.3	30.11	764.8	82	27.8	83	S	6	2.7	.....	1c	2ks	Calm	E	0.54	13.7	Fair.....	
Newport, Rhode Island.....	30.02	762.5	30.06	763.5	76	24.4	77	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York.....	29.93	760.2	30.10	764.5	75	23.9	90	SW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Norfolk, Virginia.....	30.16	766.1	30.21	767.3	81	27.2	78	W	4	1.8	.. ..	.....	10s	.....	S	0	0	Cloudy	
North Platte, Nebraska.....	27.17	690.1	29.66	753.4	64	17.8	78	NE	24	10.7	.....	5k	5s	NE	NE	0	0	Cloudy.	
Olympia, Washington Ter..	30.01	762.2	30.05	763 3	45.0	7.2	96	NE	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear..... ...	
Omaha, Nebraska.....	28.80	731.5	29.83	757.7	80	26.7	60	SW	7	3.1	.....	0	Haze	.....	Calm	Inap	Inap.	Clear...	
Oswego, New York.....	29.75	764.9	30.02	762.5	77	25.0	69	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Pembina, Dakota.....	29.10	739.1	29.92	760.0	49	9.4	78	W	8	3 6	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	30.08	764.0	30.12	765.0	76	24.4	86	SW	8	3.6	.....	0	Fog	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.69	728.7	30.38	771.6	81	27.2	70	NE	8	1.3	.....	0	5ks	.....	Calm	0.13	3.3	Fair.....	
Pike's Peak, Colorado.....	18.11	460.0	30.32	770.1	39	3.9	64	S	9	4.0	.....	5ck	0	SW	.....	0.13	3.3	Fair.....	
Pilot Point, Texas..... ...	29.06	738.1	29.85	758.2	86	30.0	68	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Ploche, Nevada.....	.....	.....	.....	.....	70	21.1	40	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pittsburg, Pennsylvania.....	29.35	745.5	30.12	765.0	76	24.4	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.34	745.2	29.97	761.2	77	25.0	69	SW	11	4.9	.....	5ck	0	W	.....	0	0	Fair...	
Portland, Maine.....	29.95	760.7	30.00	762.0	72	22.2	76	W	4	1.8	.....	2k	0	Calm	.....	0	0	Fair...	
Portland, Oregon.....	29.98	761.5	30.05	763.3	52.3	11.3	86	SE	0	0	.....	1ck	0	Calm	.....	0	0	Clear.	
Prescott, Arizona.....	24.87	630.4	30.18	766.6	64	17.8	78	SW	1	0.4	.....	5ck	0	W	.....	Inap.	Inap.	Fair.....	
Punta Rassa, Florida.....	30.09	764.3	30.11	764.8	80	26.7	82	NE	9	4.0	.....	2cs	0	Calm	.....	0	0	Fair	
Red Bluff, California.....	29.40	746.7	29.94	760.5	74	23.3	29	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.80	756.9	30.01	762.2	79	26.1	82	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York.....	29.44	747.8	30.02	762.5	77	25.0	65	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon.....	29.48	748.8	30.05	763.3	50	10.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.62	752.3	29.70	754.4	71	21.7	68	NW	4	1.8	.....	0	0	.....	.....	0	0	C ear.....	
St. Louis, Missouri.....	29.61	749.5	30.06	763.5	76	24.4	77	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	30.15	765.8	30.16	766.1	75	23.9	95	E	8	3.6	.....	0	8s	.....	NW	2.52	64.0	Fair.....	
St. Paul, Minnesota.....	29.16	740.7	29.95	760.7	67	19.4	60	NW	10	4.5	.....	5c	0	NW	.....	0	0	Fair.....	
Salt Lake City, Utah.....	25.60	650.2	29.92	760.0	74	23.3	32	NW	6	2.7	.....	8k	0	SW	.....	0	0	Cloudy.....	
San Antonio, Texas.....	29.38	746.2	29.93	760.2	81	27.2	70	E	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
San Diego, California.....	29.77	756.1	29.84	757.9	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.42	747.3	30.06	763.5	76	24.4	69	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey....	30.07	763 8	30.10	764.5	82	27.8	75	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California..	29.69	754.1	29.75	755.6	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.44	595.4	29.98	761.5	61	16.1	71	N	5	2.2	.....	1c	0	Calm	.....	0.78	19.8	Clear.....	
Savannah, Georgia.....	30.12	765.0	30.21	767.3	82	27.8	75	SW	1	0.4	.....	10c	Sm'e	SE	Calm	Inap.	Inap.	Cloudy.....	
Shreveport, Louisiana.....	29.87	758.7	30.08	764.0	75	23.9	90	SE	3	1.3	.....	2cs	0	Calm	.....	Inap.	Inap.	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.22	767.6	30.26	768.6	82	27.8	87	S	5	2.2	.....	5c	2ks	NW	S	0	0	Cloudy.....	
Socorro, New Mexico.....	25.46	646.7	29.52	749.8	71	21.7	53	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.....	
Springfield, Ill	29.41	747.0	30.06	763.5	77.5	25.3	71	S	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear.....	
Springfield, Massachusetts	29.94	760.5	30.07	763.8	77	25.0	77	S	2	0.9	.....	2c	Haze	W	.....	0	0	Fair.....	
Stockton, Texas.....	26.86	682.2	29.86	758.4	77	25.0	81	SE	8	3.6	.. ..	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.98	761.5	30.03	762.7	70	21.1	90	SW	6	2.7	.....	2c	0	Calm	.....	0	0	Clear.....	
Toledo, Ohio, ...	29.37	746.0	30.01	762.2	78	25.6	69	SW	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear.....	
Tucson, Arizona.....	27.48	698.0	30.03	762.7	78	25.6	69	Calm	0	0	.....	0	0	.....	.....	0.56	14.2	Clear.....	
Umatilla, Oregon..... ..	29.06	753.4	30.16	766.1	49.0	9.4	51	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.08	738.6	29.86	758.4	79	26.1	74	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.87	758.7	30.12	765.0	76	24.4	91	SE	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear.	
Virginia City, Montana.....	24.36	618.7	29.84	757.9	54	12.2	26	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.32	744.7	29.97	753.6	67	19.4	57	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	30.06	763.5	30.17	766.3	76	24.4	73	S	1	0.4	.....	5k	0	SW	.....	0	0	Fair	
Wickenburg, Arizona..	.....	.....	.....	.....	77	25.0	61	W	.....	.....	1	5k	0	Calm	.....	0	0	Fair.....	
Wilmington, N. Carolina.....	30.17	766.3	30.24	768.1	82	27.8	79	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.....	
Winnemucca, Nevada.....	26.64	661.2	30.00	762.0	52	11.1	29	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.02	762.5	30.06	763.6	74	23.3	85	W	6	2.7	.....	Haze	0	.....	.....	0	0	Hazy	
Yankton, Dakota.....	28.81	731.8	30.08	764.0	63	17.2	52	NE	14	6.3	.....	2ck	0	SW	.....	Inap.	Inap.	Fair...	
Yuma, Arizona.....	29.98	763.9	29.84	757.9	87	30.6	58	NE	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.97	761.2	30.02	762.5	82	27.8	78	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbr'g.
Kingston, Jamaica, W. I...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A..*	26.26	641.3	.....	.....	65.2	18.4	82	Calm	.....	.....	0	5cs	3ks	.....	.....	0.11	2.8	.....	Thomas Herran.
Navassa, W. I.....	29.87	758.7	29.95	760.7	82	27.8	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	82	27.8	79	NE	.....	.....	2	4c	5k	E	.....	0.040	1.02	Fair	C. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.00	762.0	30.05	763.3	49.5	9.7	96	E	18	8.0	.....	1c	0	.....	SE	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.8 feet, or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,824 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,8— (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches., or 47.1 millimeters: Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.860 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.6 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 111.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.60 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡			82	27.8	91	NE	12	5.4			10		SW	0.13	3.3			Threatening	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.96‡	761.0‡			78.8	26.0	86	Calm			0		9ck;k		NE	0	0			Cloudy	
Adams. Mare I'd., Navy Yard, Cal.	29.76‡	755.9‡			68	20.0	90	W			1		0							Clear	
Alliance, Copenhagen, Denmark	30.07‡	763.8‡			64	17.8	89	ESE			1-3		8		W					Cloudy	
Ashuelot, Yokohama, Japan	29.93‡	760.2‡			80	26.7	87	NW			1		10		ENE			Smooth		Cloudy	
Colorado, New York, N. Y.	30.00‡	762.0‡			76	24.4	86	SW	7	3.1						0	0			Hazy	
Constellation, Boston, Mass.	30.01‡	762.2‡			76.5	24.7	73	W			1		2		Calm	0	0			Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.11‡	764.8‡			77	25.0	95	WSW			1		0							Hazy	
Enterprise, N. 59° 00′, E 22° 00′	30.08‡	764.0‡			74	23.3	76	ENE			2		2		E			Smooth		Clear	
Essex, Montevideo, Uruguay	30.07‡	763.8‡			46	7.8	100	NNW			3		10					Smooth	NW	Foggy	
Franklin. Norfolk, Va.	30.23‡	767.8‡			78	25.6	86	WSW	6	2.7			10		wsw	0	0			Cloudy	
Hartford. S. 29° 02′, W. 43° 09′	30.11‡	764.8‡			74	23.3	72	NNE	2	0.9			2		NE	0	0	Smooth		Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.92‡	760.0‡			60	15.6	94	SSW	7.2	3.2			1		SSW	0	0			Clear	
Kearsarge, Charlottetown, Prince Edward Island	29.95‡	760.7‡			69	20.6	75	W			2		3		W					Clear	
Michigan, Chicago, Ill.	29.88‡	758.9‡			73	22.8	81	SSW			4		5		SSW					Hazy	
Monocacy, Shanghai, China	29.79‡	756.7‡			81	27.2	91	SSE			3		8		SSE					Cloudy	
Monongahela, Yokohama, Japan	29.97‡	761.2‡			82	27.8	91	NNW			1		k			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.21‡	767.3‡			85	29.4	72	SE	7	3.1			2		SE	0.05	1.3			Hazy	
Onward, Callao, Peru	30.03‡	762.7‡			68	17.2	83	SSE			1		10					Long	W	Cloudy	
Palos, Shanghai, China	29.81‡	757.2‡			80	26.7	91	SSE			3		10							Cloudy	
Passaic, Washington, D. C.					75	23.9	100	SW			1		5							Fair	
Pensacola, Callao, Peru	30.01‡	762.2‡			64	17.8	83	Calm	0	0			10					Smooth		Overcast	
Portsmouth. Boston, Mass.	30.05‡	763 3‡			74	23.3	76	W			1		2		Calm	0	0	Smooth		Clear	
Powhatan, N. 33° 55′, W 77° 13′	30.24‡	768.1‡			81	27.2	78	S			4		8		S	0	0	Long	SE	Cloudy	
Quinnebaug, Monichia, Aegean Sea, Greece	29.84‡	757.9‡			86	30.0	36	N			4		0							Clear	
Ranger, N. 30° 25′, E. 122° 46′	29.86‡	758.4‡			80	26.7	96	SE			4		8					Mod'ate	SE	Cloudy	
Richmond, Yokohama, Japan	29.98‡	761.5‡			82	27.8	83	WNW			1		10			0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.99‡	761.7‡			79	26.1	95	NNE			1		2		Calm	0	0			Clear	
Santee, Annapolis, Md.	30.15‡	765.8‡			76	24.4	77	W			2		2		W	0	0			Clear	
Saratoga, New London, Conn.	30.08‡	764.0‡			78	25.6	91	Calm			0		2		Calm	0	0			D. clouds	
St. Louis, League Island, Pa	30.22‡	767.6‡			77	25.0	86	WSW	12	5.4			2		wsw	0	0			Clear	
Trenton, N. 57° 06′, E. 11° 36′	29.98‡	761.5‡			64	17.8	83	NNW			2-3		10		Calm	0	0	Smooth		Cloudy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.78‡	756.4‡			66	18.9	84	WSW			1		0			0	0	Smooth		Blue sky	
Vandalia, N. 34° 07′, W. 76° 42′	30.26‡	768.6‡			81	27.2	83	WSW			3		8		S	0	0	Long	E	Cloudy	
Wabash, Boston Mass.	30.03‡	762.7‡			75	23.9	68	WNW	4	1.8			2			0	0			Hazy	
Wachusett, N. 28° 00′, W. 89° 00′	30.11‡	764.8‡			85	29.4	83	ESE			2		5		SE			Mod'ate	SE	Fair	
Wyoming, Piraeus, Greece	29.85‡	758.2‡			85	29.4	29	NNE			2		0					Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 35° 09′, E. 159° 13′		29.89‡	759.2‡	...	...		WSW			6				S		High	SW		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Parry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; H. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 36° 48′, E. 145° 44′		29.86‡	758.4‡	76	24.4	91	NNE			4		6cs			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, San Francisco, Cal. †		29.80‡	756.9‡	56	13.3		NNW			5		k		NW	0	Smooth	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
a. s. Leipzig, Capt. F. Pfeiffer, N. 45° 40′, W. 35° 16′		30.06‡	763.5‡	70.0	21.1	70	W			4		2		W	0	Smooth	W	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Chesapeak Bay		30.17‡	766.3‡				W			3		8		WSW				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa?		30.08‡	764.0‡	85	29.4	96	W			1		1*		SW	0			Clear	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross																			W. Randall
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 3, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	68.5	20 3	84	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.98	761.6	79.7	26.5	86	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.97	761.2	78.8	26.0	70	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.00	761.9	79.7	26.5	70	ENE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	762.3	93.4	34.1	17	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.02	762.6	90.1	32.3	27	N	.....	.....	5	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	..	.....	74.1	23.4	43	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	29.95	760.8	99.3	37.4	25	ESE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.97	761.1	100.4	38.0	27	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.9	30.04	763.0	87.4	30.8	51	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.40	746.7	30.13	765.4	77.4	25.2	56	NNE	2.2	1.0	.....	.....	5	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.22	742.3	30.07	763.8	75.9	24.4	60	N	.....	.....	3	.....	6ks	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.87	733.2	30.05	763.3	82.0	27.8	68	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.59	726.1	29.94	760.4	79.7	26.5	43	NE	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.78	729.6	29.89	761.8	82.0	27.8	70	NE	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.11	739.5	30.07	763.6	73.2	22.9	55	W	.....	.....	1	.....	4	.....	.....	0.020	0.5	.....	Dr. T. Stanecki.
Pola	29.92	759.9	30.02	762.6	93.7	34.3	36	SE	.....	.....	1	.....	7	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.63	752.7	30.08	764.1	79.5	26.4	38	E	.....	.....	2	.....	4	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.79	756.6	30.06	763.4	79.2	26.2	65	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	760.5	30.04	763.1	88.2	31.2	51	N	.....	.....	1	.....	6	.....	.....	0	0	.....	P. Busin.
Vienna	29.40	746.7	30.13	765.3	82.0	27.8	52	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.02	762.5	30.11	764.8	55.4	13.0	.....	ENE	6	2.7	.....	.....	9	.....	.....	0.080	2.03	Overcast.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.69	754.1	29.91	759.7	56.8	13.8	.....	NE	10	4.5	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	65.3	18.5	.....	ESE	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	.....	.....	29.87	758.7	62.4	16.9	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	3.6	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.93	760.2	84.5	29.2	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds..	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.77	756.1	29.86	758.4	67.2	19.6	.....	SE	.....	.....	1	.....	10	.....	.....	3.180	80.77	Overcast....	H. Todd.
Cardington	.....	.....	29.84	757.9	68.0	20.0	.....	SE	.....	.....	1	.....	10	.....	.....	2.00	50.8	Overcast....	John McLaren.
Chatham, School M. E.	29.74	755.4	29.86	758.4	68.9	20.5	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R. E.
Donaghadee	29.88	758.9	29.93	760.2	55	12.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	J. Mac Gowan.
Dover	29.85	758.2	29.87	758.7	66	18.9	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast....	J. Costello.
Falmouth, Observatory	29.64	752.8	29.86	758.4	61.4	16.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier (Natal)	27.63	701.8	29.92	760.0	67.6	19.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	85	29.4	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.85	758.2	55	12.8	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.94	760.5	30.00	762.0	80.9	27.2	.....	E	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.78	756.4	29.98	761.5	58.2	14.6	.....	ENE	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	29.88	758.9	29.88	758.9	62	16.7	.....	ESE	.....	.....	5	.....	6	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.69	754.1	29.86	758.4	67.8	19.9	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	The Staff, for G.B.Airy.
Guernsey	29.69	754.1	29.90	759.4	67	19.4	.....	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.84	757.9	29.95	760.7	63	17.2	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Misty.....	M. P. Moyle.
Holyhead	29.82	757.4	29.83	757.7	62	16.7	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.66	753.4	29.95	760.7	65.9	18.8	.....	WSW	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds....	J. Fisher.
Kew, Observatory	29.83	757.7	29.86	758.4	66.7	19.3	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.63	752.6	29.88	758.9	62.8	17.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	60.8	27.1	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.97	761.2	30.06	763.5	56	13.3	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.02	762.5	83.2	28.4	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.70	754.4	29.89	759.2	64.1	17.8	.....	NNE	.....	.....	3	.....	10d	.....	NE	0.801	20.35	Overcast....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.34	745.2	29.86	758.4	60.1	15.6	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.87	758.7	64	17.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	60.9	16.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.79	756.7	29.90	759.4	55	12.8	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	30.13	765.3	56.2	13.4	.....	WNW	7	3.1	.....	.....	2	.....	.....	.....	.....	Blue sky.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.87	758.7	29.93	760.2	82.4	28.0	.....	NNE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	Serg't.W. H.Lyne.
Sheffield	29.67	753.6	29.94	760.5	61.4	16.3	.....	NE	.....	.....	2	.....	10	.....	.....	0.04	1.0	Overcast....	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.98	761.5	61.9	16.6	79	E	.....	.....	5	.....	9	.....	.....	0.070	1.78	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.92	760.0	60.3	15.7	.....	NNE	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	66.4	19.1	.....	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.86	758.4	29.87	758.7	63	17.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.89	759.2	59.6	15.3	.....	NE	16	7.2	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.14	765.5	30.18	766.6	59.7	15.4	.....	S	3.0	1.3	.....	8	10	.....	.....	0	0	Threatening	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	30.05	763.3	57.8	14.3	.....	E	.....	.....	3	.....	10k	SW	.....	0.13	3.3	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.2	70.1	21.2	61	ESE	22.0	9.8	.....	0	8	.....	.....	0.05	1.3	Squally.....	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	48.0	8.9	76	S	4	1.8	.....	.....	10	.....	.....	0.09	2.3	Showery....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	25.96	659.4	.....	.....	67	19.4	.....	NW	.....	.....	.....	0	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 55′. E. 28° 45′	.....	.....	29.87‡	758.7‡	77.8	25.4	.....	NNE	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. W. J. L. Wharton.
Algeria, N. 42° 20′, W. 58° 00′	.....	.....	29.94	760.5	66	18.9	.....	NW	.....	.....	1	.....	8	.....	.....	2	.....	Misty.....	Capt. Wm. Watson.
Atmosphere, N. 46° 50′ W. 37° 30′	.....	.....	29.99	761.7	66	18.9	.....	WSW	.....	.....	2	.....	10	.....	.....	5	NW	Misty.....	.....
Barque Commewyne, N. 41° 30′, W. 42° 20′	.....	.....	30.09‡	764.3‡	75	23.9	.....	SSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	Capt. A. Buchan.
Gordon Castle, N. 41° 50′, W. 35° 35′	.....	.....	30.16	766.1	80	26.7	.....	Calm	.....	.....	0	.....	3	.....	.....	1	NNW	D. clouds....	.....
German Brig "W. von Freeden" N. 32° 55′, W. 72° 35′	.....	.....	30.18	766.6	84	28.9	.....	NE	.....	.....	3	.....	5	.....	.....	5	SE	D. clouds....	Capt. H. v. Freeden.
Theophane, N. 14° 05′, W. 25° 45′	.....	.....	30.01‡	762.2‡	79.6	26.4	.....	NNE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.28	666.2	29.95	760.7	68.0	20.0	91	SE			2	2ck				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.14	765.5	30.19	766.7	63.3	17.4	65	NNE			2		2						
Fanöe	30.05	763.2	30.07	763.7	67.5	19.7	66	SE			4		8						
Godthaab (Greenland)	29.87	758.6	29.91	759.7	44.8	7.1	96	Calm			0		10						
Stykkisholm (Iceland)	29.94	760.5	29.98	761.6	52.9	11.6	71	SE			6		0						
Thorshavn (Faröe)	29.97	761.3	30.01	762.2	51.4	10.8	77	NW			2		10						
Vestervig	30.04	762.9	30.15	765.7	62.6	17.0	66	E			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.42	747.2	29.97	761.2	77.7	25.4	76	WSW			1		8kn		SW	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.78	756.3	29.88	759.0	88.5	31.4	56	SE			1		5		E	0	0	Cloudy.	Ronvallet, Director.
Arras, Engin'r School	29.63	752.7	29.87	758.8	85.3	29.6	51	WSW			1				SW	0	0		Klein, Commandant.
Avignon, Normal School	29.94	760.4	30.02	762.4	91.6	33.1	31	SW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.39	746.4	29.90	759.5	89.8	32.1	35	S			1		0			0	0	Clear	G. Saillard, Director.
Beauvais, Normal School	29.64	752.9	29.89	759.1	84.6	29.2	57	S			1		2			0	0	Slightly cl'dy	Frere Eugene Marie.
Besançon, Normal School	29.14	740.1	29.98	761.4	88.2	31.2	63	E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.9	30.10	764.4	89.6	32	34	S			5		0			0	0	Clear	Mariot, Director.
Bourges, Normal School	29.40	746.7	29.91	759.8	84.2	29	55	NW			1		ks			0	0		M. Gence, Director.
Brest, Naval Observatory	29.63	752.5	29.87	758.6	66.1	20.6	81	SW			1		8		SW	0.167	4.25		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.56	750.8	29.95	760.7	81.9	27.7	57	E			3		2	E	E	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.84	758.0	29.92	759.9	79.5	26.4	66	W			1		1		W	0	0	v slightly Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.41	747.1	29.95	760.6	82.4	28	68	SW			1		6		NE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.8	29.85	758.3	88.0	31.1	45	SW			2		2					Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.59	726.3	29.84	758.0	93.2	34.0	22	E			1		0			0	0		Allnard, Director.
Commercy, Normal School	29.13	740.0	29.93	760.2	91.8	33.2	30	SE			1		5ks	SE	SE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.98	736.1	30.12	765.1	91.9	33.3	19	SW			2		2		S	0	0		L. Kina, Director.
Grenoble, Normal School	29.28	743.6	30.00	762.0	85.3	29.6	51	NW			2		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	29.79	756.6	30.00	761.9	69.4	20.8	82	WNW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.66	753.0	29.95	760.6	71.6	22	88	SW			1		5		SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.12	739.6	29.99	761.7	88.0	31.1	40	SW			1		0			0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.87	758.8	29.98	761.4	69.1	20.6	85	S			3				S	0	0		Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	745.9	29.94	760.5	91.9	33.3	28	SSW			1		0			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.76	755.9	30.02	762.6	84.0	28.9	35	W			1		1			0	0		E. Stephan, Director
Mirecourt, Normal School	28.98	736.1	29.96	761.0	83.8	28.8	58	SE			1	2c		SE	SE			Slightly cov	Barbier, Director
Mont-Louis	25.03	635.8	30.35	770.8	77.4	25.2	36	WSW	16.8	7.5						0	0		M. Cave
Nice	30.00	762.1	30.04	763.0	86.7	30.4	67	S			1		1	SW	S	0	0	Hazy	M. Boissiéré, Director.
Nismes, Normal School	29.83	757.7	30.02	762.5	92.5	33.6	35	SW			1		2		N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.63	752.7	89.1	31.7	44	SW			1		5		WSW	0	0		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.75	577.8			61.7	16.5		SSW			2		10		SSW	0.016	0.4	Threatening	Gen'l de Nansouty.
Perpignan	29.89	759.1	29.99	761.7	76.8	24.9	76	SE	11.2	5.0			1		NE	0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.33	643.4			69.5	21.0	54	E			1		5			0	0		Allnard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.5	71.6	22.0	79	W			1		10	W	W	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.4	29.90	759.5	81.5	27.5	66	WSW			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.88	758.9	29.91	759.7	74.1	23.4	74	NNW			1		1	NW	WSW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.5	29.91	759.8	87.6	30.9	51	S			1		1	SSW		0	0		E. Renou, Director.
Tarbes, Normal School	29.65	753.2	29.98	761.4	77.0	25	83	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.27	743.5	29.94	761.8	66.7	30.4	46	SSE			3		1			0	0		M. Julier Mercadier.
Tours	29.04	752.8	29.84	757.8	73.4	23.0	80	WSW			1		10		W			Rainy	Cousin-Marquet.
Versailles, Observatory	29.44	747.8	29.93	760.3	86.4	30.2	44	SW			1		5			0	0	Fair	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.28	743.6	29.94	760.5	93.2	34	27	SE			3		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	80.6	27										0.12	3.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.82	757.3	29.84	757.9	77.5	25.3	93	E	10.7	4.8			3k		SE	0	0	Slightly cl'dy	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.06	763.5	85.8	29.9	46	S	.....	.....	4	.....	1	SW	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.97	761.1	30.13	765.3	78.8	26.0	53	E	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.64	752.9	30.18	766.5	80.6	27.0	41	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Royal University Ob's'y.
Carlsruhe	29.55	750.6	29.95	760.7	88.5	31.4	55	NE	.....	.....	0	.....	.....	.....	.....	0	0	.....	Albert Senx.
Cassel	29.47	748.5	30.08	764.0	88.0	31.1	56	ESE	.....	.....	2	.....	2	SSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.78	756.4	29.94	760.5	90.5	32.5	50	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.98	761.6	74.3	23.5	54	ENE	.....	.....	5	.....	2	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.65	753.2	30.01	762.3	88.9	31.6	.....	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	30.11	764.8	30.15	765.8	81.0	27.2	61	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.62	727.0	29.97	761.2	83.1	28.4	63	SSW	.....	.....	1	.....	4	W	.....	0.012	0.3	.....	M. Wilhelm.
Hamburg	30.06	763.4	30.12	765.1	74.1	23.4	65	ENE	.....	.....	3	.....	3k	.....	.....	0	0	.....	Captain F. Hegemann
Kiel	30.14	765.6	30.16	766.0	69.3	20.7	59	E	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.10	764.4	30.17	766.4	72.5	22.5	67	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.16	766.1	64.9	18.3	.....	N	.....	.....	2	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.69	754.0	30.08	764.1	85.6	29.8	47	E	.....	.....	2	.....	3	ESE	.....	0	0	.....	Prof. Bruhns, Privy Counsellor.
Memel	30.10	764.6	30.15	765.8	65.5	18.6	85	NW	.....	.....	4	.....	1k	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.26	717.8	30.13	765.3	85.8	29.9	37	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	30.19	766.7	30.20	767.1	63.0	17.2	84	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.84	757.9	30.11	764.9	79.0	26.1	53	W	.....	.....	2	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.47	748.5	29.99	761.7	86.0	30.0	55	NE	.....	.....	1	.....	9	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.05	737.8	29.91	759.8	89.1	31.7	43	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.59	726.1	30.00	762.0	84.9	29.4	39	SE	2	1	.....	1c	.....	.....	.....	0	0	Hazy...	T. Hopfner.
Wustrow	30.17	766.4	30.20	767.0	68.5	20.3	65	NE	.....	.....	3	.....	3s	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.88	759.0	92.8	33.8	.....	NE	.....	.....	4.0	.....	1k	W	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.8	29.49	749.1	82.4	28.0	75	W	7.0	3.1	.....	.....	3	.....	.....	0	0	D. clouds.....	
Deesa	29.05	738.0	29.52	749.7	87.1	30.6	63	WSW	17.5	7.7	.....	.....	7	.....	SW	0	0	D. clouds.....	
Bombay	29.60	751.8	29.64	752.7	77.2	25.1	95	WSW	15.0	6.7	.....	.....	10	.....	WSW	1.81	47.8	Raining	
Poona	27.82	706.5	29.68	754.0	71.3	21.8	90	WSW	11.0	4.9	.....	.....	10	.....	W	0.48	12.2	Drizzling.....	
Lahore	28.66	728.0	29.36	745.8	99.1	37.3	40	SW	4.5	2.0	.....	.....	5	.....	.....	0	0	D. clouds.....	
Belgaum	27.17	690.2	29.73	755.2	69.3	20.7	89	W	27.0	12.1	.....	.....	10	.....	W	0.37	9.4	Drizzling.....	
Roorkee	28.58	725.9	29.47	748.4	80.5	27.1	87	E	0.9	0.4	.....	.....	9	.....	.....	0.17	4.3	Overcast.....	
Agra	28.90	734.2	29.46	748.3	83.7	28.7	83	SE	.....	.....	.....	.....	8	.....	S	0	0	.....	
Nagpur	28.45	722.6	29.49	749.0	73.5	23.1	95	W	7.2	3.2	.....	.....	10	.....	E	2.18	55.4	Overcast.....	
Lucknow	29.09	738.9	29.46	748.2	79.5	26.6	98	Calm	0.1	0.04	.....	.....	10	.....	.....	0.01	0.3	Overcast.....	
Allahabad	29.13	739.9	29.43	747.6	86.5	30.3	81	NE	4.7	2.1	.....	.....	7	.....	.....	0.51	13.0	D. clouds.....	
Patna	29.28	743.2	29.44	747.7	87.0	30.6	77	E	2.1	0.9	.....	.....	6	E	E	0.17	4.3	D. clouds.....	
Hazaribagh	27.43	696.7	29.41	746.9	79.5	26.6	82	ENE	12.1	5.4	.....	.....	4	.....	E	0.14	3.6	Showery.....	
Cuttack	29.30	744.3	29.38	746.3	80.4	26.9	84	SSW	2.0	0.9	.....	.....	5	.....	.....	0.68	17.3	D. clouds.....	
Calcutta (Alipore)	29.39	746.6	29.42	747.1	82.5	28.1	89	ESE	7.0	3.1	.....	.....	3	SE	SE	0.03	0.8	Showery.....	
Goalpara	29.12	739.5	29.50	749.3	82.0	27.8	85	E	9.3	4.2	.....	.....	5	.....	.....	0.22	5.6	D. clouds.....	
Chittagong	29.45	748.4	29.53	750.2	81.1	27.3	87	SE	5.8	2.6	.....	.....	10	.....	.....	0	0	Overcast.....	
Sibsagar	29.21	742.0	29.54	750.4	85.4	29.7	82	ENE	1.4	0.6	.....	.....	8	SW	SW	0.23	5.8	D. clouds.....	
Jubbulpore	28.08	713.2	29.43	747.5	78.3	25.7	93	NW	3.9	1.7	.....	.....	10	.....	N	0.60	15.2	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,551 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.64	752.9	30.03	762.8	88.3	31.3	45	SE	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.52	749.9	30.02	762.4	91.9	33.3	42	E	.....	.....	2	.....	3	S	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.93	760.2	30.04	762.9	87.3	30.7	48	SE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.14	740.2	30.00	762.1	88.9	31.6	44	E	2.5	1.1	.....	.....	4	ESE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	757.8	30.02	762.4	85.8	29.9	52	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.19	715.9	30.01	762.2	86.7	30.4	37	NW	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.97	761.3	30.02	762.4	84.7	29.3	58	E	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.5	29.99	761.7	90.6	36 1	23	W	.....	.....	2	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.2	30.01	762.2	85.7	29.7	58	W	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.6	29.96	760.9	94.1	34.5	32	W	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.69	754.2	29.94	760.4	85.6	29.8	36	NE	16.8	7.5	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.07	738.3	29.91	759.6	89.6	32.0	60	NW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.3	30.00	762.0	83.5	28.6	59	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.75	755.7	30.00	761.9	79.5	26.4	67	ENE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.2	29.92	760.0	88.5	31.4	33	SE	2.5	1.1	.....	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.0	30.00	762.1	91.2	32.9	45	SE	3.8	1.7	.....	.....	3	S	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or, 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.89	759.2	29.91	759.7	81.1	27.3	79	NW	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.95	760.7	79.5	26.4	82	SSW	0.3	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.85	758.2	29.92	759.9	78.1	25.6	79	SE	3.5	1.6	.....	Ics;ck	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.85	758.2	29.90	759.4	82.1	27.8	76	SSW	2.0	0.9	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Guernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	636.0	29.99	761.8	62.6	17.0	74	Calm	.....	.....	0	.....	10	.....	E	0.18	4.6	Covered	Prof. L. Perez.
Leon	24.43	620.4	30.01	762.3	66.6	19.2	79	E	.....	.....	1	.....	10k	.....	E	0	0	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.2	30.08	764.0	54.5	12.5	84	NW	7.6	3.4	.....	9k	0	N	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	64.9	18.3	71	NE	.....	.....	2	.....	10ks	.....	NE	0	0	Covered	M. V. de Leon, M. E
Tlacotalpam	29.97	761.2	29.98	761.5	75.2	24.0	90	E	.....	.....	1	.....	10	.....	S	2.65	67.3	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.14	765.6	61.0	16.1	52	E	.....	.....	1	.....	10	.....	E	0.12	3.1	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.58	573.6	30.14	765.6	57.0	13.9	52	E	.....	.....	2	.....	Fog	.....	ESE	0	0	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.40	594.4	30.20	767.0	52.7	11.5	80	SW	2.7	1.2	.....	.....	9	.....	SE	0.008	0.2	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	78.8	26.0	88	SE	.....	.....	2	.....	9n	.....	SE	0	0	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Guernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.90	759.4	29.90	759.4	78.4	25.8	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.96	761.0	30.02	762.4	72.5	22.5	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.90	759.5	29.90	759.5	72.0	22.2	.....	E	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.89	759.3	29.89	759.3	77.7	25 4	74	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.90	759.5	29.95	760.7	79.3	26.3	70	NE	.....	.....	4	.....	3	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.08	764.1	30.14	765.5	64.4	18.0	62	SSW	15.2	6.8	.....	....	8	.....	.....	0	0	.....	
Brönö	30.02	762.4	30.06	763.4	63.3	17.4	70	N	4	2	.....	....	7	.....	.....	0	0	.....	
Christiania	29.94	760.5	30.08	764.1	71.2	21.8	40	SSW	4	2	.....	....	2	.....	.....	0	0	.....	
Tromsö	29.90	759.4	29.94	760.5	75.4	24.1	28	S	11	5	.....	....	4	.....	.....	0.760	19.3	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.07	763.8	30.26	768.5	73.4	23.0	80	SSE	1.8	0.8	.....	.....	5	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.93	737.3	30.01	762 3	81.1	27.3	31	W	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.8	30.16	766.0	73.9	23.3	70	SW	2.5	1.1	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.11	764.9	72.3	22.4	61	N	18.6	8.3	.....	.....	4	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.21	767.2	30.29	769.4	78.8	26.0	59	SSE	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea	1	W	Drizzling, ½ hr's rain.]	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro				
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	1	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira				H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello				J.G. Felgo 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	SW	D. Clouds, 2 hr's rain-fall.]	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.71	754.7	30.12	765.0	75.9	24.4	51	N	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.68	753.9	30.08	764.0	75.6	24.2	55	SSE	2	1	.....	.....	6	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.93	760.2	30.16	766.2	70.2	21.2	39	ENE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Welhrauch.
St. Petersburg	30.14	765.6	30.16	766.0	66.6	19.2	54	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.29	743.9	29.89	759.3	72.7	22.6	48	N	9	4	.....	.....	8k;cks;	ckn].	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.73	755.1	29.80	756.9	73.0	23.3	70	N	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.69	754.1	29.71	754.6	68.9	20.5	90	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.47	748.6	30.03	762.7	52.2	11.2	69	NNW	7.8	3.5	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.42	747.2	29.61	752.2	79.5	26.4	44	NNE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.12	765.0	30.14	765.5	65.7	18.7	57	NW	13	6	.....	.....	1cs	.....	.....	.....	.....	.....	Capt. Ssoliwerstow.
Tiflis	28.29	718.6	29.63	752.5	79.5	26.4	55	NW	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.71	754.5	29.62	752.4	90.1	32.3	28	SE	2	1	.....	.....	3s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.58	751.3	29.83	757.7	75.4	24.1	42	E	2	1	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.88	733.6	29.84	757.8	53.4	11.9	67	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.60	751.9	29.82	757.4	90.7	32.6	37	NNW	11	5	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.11	713.9	29.55	750.6	88.9	31.6	37	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.11	739.5	29.60	751.7	63.9	17.7	42	WNW	9	4	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.56	750.8	29.84	757.9	62.4	16.9	77	SE	9	4	.....	.....	9	.....	.....	.....	.....	Raining	Marks.
Irkutsk																			
Peking (China)	29.64	752.9	29.78	756.5	86.1	26.7	89	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observat ory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.75	755.7	29.85	758.2	70.5	21.4	94	S	7.8	3.5	.....	.....	10n	.....	.....	.....	.....	Heavy fog	
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.7	86.0	30	42	SSE	4.5	2.00	.....	c	0	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.19	766.9	30.25	768.3	74.7	23.7	73	NW	2.5	1.11	.....	.....	10	.....	.....	0.181	4.6	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	25.14	638.5	.....	.....	83.3	28.5	40	SW	5.5	2.44	.....	0	0	.....	.....	0.059	1.5	Light clouds	Domingo Martin y Peres.
Madrid, Royal Osevratory	27.80	706.2	29.88	758.9	88.9	31.6	28	SW	13.4	6.00	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.85	758.2	29.99	761.8	92.7	33.7	44	E	5.0	2.25	.....	2	4	NE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.3	30.07	763.8	71.2	21.8	67	NW	8.7	3.9	.....	0	7	.....	.....	0.213	5.4	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.8	30.02	762.4	83.0	28.3	79	E	7.2	3.2	.....	1c	2k	NE	E	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.80	756.9	29.81	758.0	81.7	27.6	87	ESE	2.7	1.2	.....	4c	4ks	E	W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.0	78.1	25.6	76	W	8.6	3.9	.....	2	3	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.6	30.00	761.9	81.3	27.4	82	SE	.....	.....	.....	4ks	3k	SE	SE	0.089	2.25	Cloudy	Leonardo de Tejoda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.11	764.7	30.15	765.7	72.3	22.4	.....	S	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	30.07	763.7	30.12	765.0	70.9	21.6	51	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	30.00	761.9	30.05	763.2	70.5	21.4	72	S	.....	.....	6	.....	2	.....	.....	0	0	.....	
Stockholm	29.94	760.4	30.11	764.9	73.4	23.0	60	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Wisby	30.04	763.1	30.10	764.6	69.4	20.8	73	W	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.01	762.3	30.10	764.5	73.0	22.8	63	SSW	10.1	4.5	.....	.....	7	.....	SW	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 56° 29', E. 12° 14'	30.24	768.2	30.25	768.3	62.4	16.9	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds..	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.1	29.97	761.2	84.9	29.4	51	NNE	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.43	722.0	29.96	760.9	87.4	30.8	63	W	.....	.....	1	.....	3	.....	.....	0	0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, −0.7 mm.; Thermometer, +7.0 Cent.; Relative Humidity,−2 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.08	764.1	75.7	24.3	51	N	22	10.0	.....	.....	6	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.05	763.2	84.4	29.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.6	90.0	32.2	55	WSW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.62	752.3	29.68	753.9	77	25.0	77	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	G. A. Bain.
Charlottetown, P. E. Island	29.68	753.9	29.72	754.9	71	21.7	79	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.70	754.4	29.88	758.9	73.0	22.8	69	N	.....	.....	2	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.64	750.3	29.70	754.4	72.5	22.5	71	W	.....	.....	2	0	0	.....	.....	0.15	3.8	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.71	754.6	29.73	755.1	61	16.1	80	W	27	12.1	.....	0	2ks	.....	Calm	0.05	1.3	Clear	J. McWilliams.
Fredericton, N. B	29.70	754.4	29.76	755.9	79.1	26.1	64	NW	10	4.5	.....	c	Haze	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.15	740.4	29.96	761.0	54	12.2	87	W	6	2.7	.....	2c	2s	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.94	735.1	30.00	762.0	67	19.4	84	Calm	.....	.....	0	1cs	0	.....	.....	0.60	15.2	Clear	James Grant.
*Halifax, N. S	29.69	754.1	29.82	757.4	64	17.8	89	SW	2	0.9	.....	2cs	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.68	753.9	30.02	762.5	70.5	21.4	83	E	.....	.....	1	10cs	0	NW	.....	0.10	4.8	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.63	752.6	29.95	760.7	72	22.2	67	NW	3	1.3	.....	8c	0	NW	.....	Inap.	Inap.	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.76	755.9	29.80	756.9	74.9	23.8	73	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.69	754.1	29.88	758.9	72	22.2	67	NW	3	1.3	.....	2cs	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.01	762.2	63	17.2	67	N	4	1.8	.....	0	0	.....	.....	0.24	6.1	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.92	760.0	71.9	22.2	58	NE	.....	.....	2	2k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.34	745.2	30.00	762.0	70	21.1	95	N	4	1.8	.....	10k	0	SW	.....	0.10	2.5	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.00	762.0	73	22.8	89	N	2	0.9	.....	5cs	Haze	W	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.52	749.8	29.83	757.7	69	20.6	65	NW	.....	.....	3	0	0	.....	.....	0.07	1.8	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.55	750.6	30.00	762.0	69	15.0	79	W	5	2.2	.....	5ck	0	W	.....	0.17	4.3	Fair	W. H. McIntyre.
St. Andrews, N. B	29.72	754.9	29.77	756.1	65	18.3	86	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.63	752.6	29.79	756.7	64	17.8	78	S	5	2.2	.....	0	3ck	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.01	762.2	*65	18.3	76	NW	11	4.9	.....	5k	0	W	.....	0.75	19.1	Fair	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.72	754.9	29.76	755.9	70	21.1	75	SW	9	4.0	.....	2ck	0	W	.....	0	0	Hazy	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.02	762.5	68	20.0	72	Calm	0	0	.....	.....	10s	.....	W	0.85	21.6	Cloudy	Magnetic Observatory.
Windsor, N. S	29.79	756.7	29.82	757.4	70.5	21.4	82	W	1	0.4	.....	4k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.68	753.9	29.92	760.0	74.0	23.3	68	SW	.....	.....	.....	10c	10s	.....	.....	0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.74	755.4	29.96	761.0	77	25.0	77	S	1	0.4	.....	4cs	Haze	W	.....	0.01	0.3	Fair	
Alpena, Michigan	29.40	746.7	30.03	762.7	63	17.2	67	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	100	S	5	2.2	.....	.....	10n	.....	SW	0.15	3.8	Raining	
Atlanta, Georgia	29.99	736.6	30.11	764.8	73	22.8	90	E	1	0.4	.....	.....	10s	.....	Calm	0.57	14.5	Cloudy	
Atlantic City, New Jersey	30.02	762.5	30.04	763.0	79	26.1	78	W	7	3.1	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.98	761.5	30.17	766.3	75	23.9	86	NW	2	0.9	.....	.....	10n	.....	Calm	0.09	2.3	Light rain	
Baltimore, Maryland	30.02	762.5	30.07	763.8	81	27.2	63	NW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	29.99	761.7	30.01	762.2	82	27.8	71	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.19	716.0	30.04	763.0	54	12.2	50	E	8	3.6	.....	5ck	2s	Calm	Calm	0	0	Fair	
Boerne, Texas	28.64	727.4	29.91	759.7	72	22.2	80	S	4	1.8	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	54	12.2	43	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.76	755.9	29.90	759.4	76.5	24.7	71	W	10	4.5	.....	2ck	5s	W	W	Inap.	Inap	Fair	
Brackettville, Texas	28.94	735.1	29.94	760.5	76	24.4	73	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.05	737.9	30.04	763.0	56	13.3	94	SE	3	1.3	.....	10k	0	W	.....	0	0	Cloudy	
Brownsville, Texas	29.95	760.7	29.99	761.7	76	24.4	91	Calm	0	0	.....	.....	10s	.....	SE	0.01	0.3	Cloudy	
Buffalo, New York	29.30	744.2	29.96	761.0	74	23.3	76	N	4	1.8	.....	10cs	Haze	W	Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	83	28.3	50	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.63	752.6	29.90	759.4	77	25.0	65	W	3	1.3	.....	2ck	8ks	W	W	0	0	Cloudy	
Cairo, Illinois	29.75	755.6	30.12	765.0	81	27.2	78	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	.....	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	80	26.7	87	SW	8	3.6	.....	5ck	1ks	W	SW	0	0	Fair	
Cape Henry, Virginia	30.10	764.5	30.12	765.0	76	24.4	77	SW	5	2.2	.....	5ck	0	SW	.....	Inap.	Inap.	Fair	
Cape Lookout, N. Carolina	30.13	765.3	30.15	765.8	80	26.7	87	Calm	0	0	.....	8ck	0	Calm	.....	0.01	0.3	Cloudy	
Cape May, New Jersey	30.02	762.5	30.04	763.0	75	23.9	81	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.28	743.7	29.97	761.2	76	24.4	91	Calm	0	0	.....	.....	10s	.....	S	0.34	8.6	Cloudy	
Charleston, South Carolina	30.09	764.3	30.14	765.5	82	27.8	79	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Charlotte, North Carolina	29.31	744.6	30.12	765.0	72	22.2	90	S	3	1.3	.....	.....	10s	.....	Calm	0.44	11.2	Cloudy	
Chattanooga, Tennessee	29.36	745.7	30.13	765.3	74	23.3	90	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	62	16.7	72	W	4	1.8	.....	0	5ks	.....	W	Inap.	Inap.	Fair	
Chicago, Illinois	29.32	744.7	29.97	761.2	76	24.4	82	NE	5	2.2	.....	5ck	0	W	.....	0	0	Fair	
Cincinnati, Ohio	29.45	748.0	30.07	763.8	77	25.0	77	SE	4	1.8	.....	5c	0	NW	.....	0	0	Fair	
Cleveland, Ohio	29.34	745.2	30.02	762.5	78	25.6	69	W	6	2.7	.....	5cs	0	W	.....	0	0	Fair	
Coleman City, Texas	28.26	717.8	29.85	758.2	78	25.6	61	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.24	742.7	30.04	763.0	76	24.4	77	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.17	715.5	29.77	756.1	78	25.6	57	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.63	752.6	30.08	764.0	77	25.0	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.40	746.7	30.01	762.2	73	22.8	63	NE	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.39	644.9	.....	.....	57	13.9	81	Calm	0	0	.....	2c	2s	Calm	Calm	0	0	Fair	
Decatur, Texas	28.93	734.8	30.04	763.0	82	27.8	52	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.28	743.7	30.04	763.0	78	25.6	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.84	630.9	30.06	763.5	63	17.2	83	S	3	1.3	.....	5ck	0	NW	.....	0.05	1.3	Fair	
Des Moines, Iowa	29.16	740.7	30.00	762.0	69	20.6	65	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Detroit, Michigan	29.38	746.2	30.02	762.5	70	21.1	80	NE	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Threatening	
Dodge City, Kansas	27.44	697.0	29.62	752.3	73	22.8	63	S	8	3.6	.....	8c	0	W	.....	0	0	Cloudy	
Dubuque, Iowa	29.35	745.5	30.02	762.5	68	20.0	65	N	5	1.3	.....	.....	10ks	.....	N	0	0	Cloudy	
Duluth, Minnesota	29.38	746.2	30.05	763.3	60	15.6	82	SW	2	0.9	.....	5ck	0	W	.....	0	0	Fair	
Eagle Pass, Texas	29.27	743.4	29.97	761.2	78	25.6	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.72	754.9	29.78	756.4	73	22.8	72	SW	2	0.9	.....	2c	Haze	Calm	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	79	26.1	87	Calm	.....	.....	0	5c	5s	Calm	Calm	0.07	1.8	Fair	
El Paso, Texas	26.26	667.0	.....	.....	69	20.6	43	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.50	744.2	29.97	761.2	79	26.1	74	W	7	3.1	.....	5ck	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.42	747.3	30.06	763.5	66	18.9	69	W	5	2.2	.....	2c	0	NW	.....	0	0	Fair	
Florence, Arizona	28.40	721.3	30.00	762.0	80	26.7	34	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.92	709.2	29.72	754.9	52	11.1	86	N	1	0.4	.....	2cs	0	W	.....	0	0	Fair	
Fort Davis, Texas	25.30	642.6	30.26	768.6	68	20.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.51	749.5	30.02	762.5	83	28.3	64	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	75	23.9	56	SE	2	0.9	.....	2ck	2s	Calm	Calm	0	0	Fair	
Fort Griffin, Texas	28.80	731.5	30.01	762.2	78	25.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.42	696.5	.....	.....	60	15.6	70	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.85	707.4	29.68	753.9	75	23.9	72	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.88	758.9	79	26.1	62	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.15	715.0	.....	.....	58	14.4	76	E	2	0.9	.....	4ck	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.36	720.3	29.86	758.4	77	25.0	69	S	1	0.4	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.05	763.3	30.09	764.3	82	27.8	83	S	3	1.3	.....	5ck	5ks	Calm	SE	0.12	3.0	Cloudy	
Graham, Texas	28.97	735.8	29.97	761.2	80	26.7	59	SE	2	0.9	.....	2k	0	S	.....	0	0	Fair	
Grand Haven, Michigan	29.36	745.7	29.98	761.5	74	23.3	81	E	6	2.7	.....	0	8s	.....	Calm	0.32	8.1	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.08	738.6	29.99	761.7	77	25.0	73	SE	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.28	743.7	30.01	762.2	78	25.6	78	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Indianola, Texas	30.06	763.5	30.08	764.0	83	28.3	79	SE	5	2.2	.....	5ks	2ks	NW	SE	0	0	Fair	
Jacksboro, Texas	28.94	735.1	30.01	762.2	84	28.9	54	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.11	764.8	30.13	765.3	79	26.1	82	E	2	0.9	.....	5ks	0	W	.....	0	0	Fair	
Keokuk, Iowa	29.38	746.2	29.98	761.0	81	27.2	70	SW	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Key West, Florida	30.00	762.0	30.03	762.7	83	28.3	83	NE	10	4.5	.....	2k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.05	763.3	30.07	763.8	80	26.7	78	SW	15	6.7	.....	2ck	0	SW	.....	0.11	2.8	Fair	
Knoxville, Tennessee	29.17	740.9	30.14	765.5	73	22.8	90	SW	1	0.4	.....	2k	8ks	Calm	SW	0.02	0.5	Cloudy	
La Crosse, Wisconsin	29.34	745.2	30.06	763.5	62	16.7	77	N	1	0.4	.....	.....	10s	.....	W	0	0	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	66	18.9	64	Calm	0	0	.....	5cs	0	NE	.....	0	0	Fair	
Laredo, Texas	29.64	752.8	29.97	761.2	80	26.7	51	E	3	1.3	.....	.....	10s	.....	E.	0	0	Cloudy	
Leavenworth, Kansas	29.16	740.7	29.96	761.0	75	23.9	77	SE	3	1.3	.....	2c	Haze	W	.....	0	0	Clear	
Little Rock, Arkansas	29.77	756.1	30.11	764.8	78	25.6	86	Calm	0	0	.....	0	2ks	.....	Calm	0.01	0.3	Clear	
Los Angeles, California	29.56	750.8	29.88	758.9	66.0	18.9	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.52	749.8	30.05	763.3	78	25.6	73	S	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.44	747.8	30.10	764.5	77	25.0	73	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Madison, Wisconsin	29.04	737.6	29.99	761.7	66	18.9	69	N	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Marquette, Michigan	29.34	745.2	30.01	762.2	64	17.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.47	723.1	30.16	766.1	77	25.0	77	SE	2	0.9	.....	0	1s	.....	S	0	0	Clear	
Memphis, Tennessee	29.79	756.7	30.12	765.0	77	25.0	86	E	5	2.2	.....	0	Haze	.....	Calm	0.73	18.5	Clear	
Milwaukee, Wisconsin	29.30	744.2	29.99	761.7	70	21.1	66	NE	6	2.7	.....	5ck	0	N	.....	0	0	Fair	
Mobile, Alabama	30.10	764.5	30.14	765.5	77.5	25.3	95	N	4	1.8	.....	0	5s	.....	NE	0.04	1.0	Fair	
Montgomery, Alabama	29.92	760.0	30.15	765.8	77	25.0	95	SE	1	0.4	.....	4k	0	SE	.....	0.04	1.0	Fair	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Morgantown, West Virginia	29.14	740.1	30.07	763.8	80	26.7	66	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.85	605.8	30.21	767.3	52	11.1	100	NW	50	22.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee.....	29.60	751.8	30.11	764.8	83	28.3	71	Calm	0	0	.....	2k	Haze	W	Calm	0.15	3.8	Fair.....	
New Haven, Connecticut.....	29.86	758.4	29.97	761.2	83	28.:	64	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
New London, Connecticut...	29.92	760.0	29.97	761.2	84	28.9	64	W	2	0.9	.....	1ck	Haze	W	Calm	0	0	Dense haze..	
New Orleans, Louisiana.....	30.06	763.5	30.12	765.0	84	28.9	79	E	3	1.3	.....	1c	0	Calm	.....	0.05	1.3	Clear.....	
Newport, Rhode Island.....	29.90	759.4	29.95	760.7	80	26.7	70	SW	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
New York, New York.....	29.88	757.7	30.00	762.0	76	24.4	61	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.....	
Norfolk, Virginia.....	30.07	763.8	30.12	765.0	79	26.1	70	SW	7	3.1	.....	5ck	0	W	.....	0	0	Fair.....	
North Platte, Nebraska	27.10	688.3	29.59	751.6	62	16.7	86	SE	2	0.9	.....	2c	2ks	W	Calm	0	0	Fair.....	
Olympia, Washington Ter..	30.03	762.7	30.07	763.8	46.6	8.1	96	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska.....	28.90	734.0	29.96	761.0	65	18 3	84	N	14	6.3	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Oswego, New York.....	29.68	753.9	29.99	761.7	73	22.8	76	NW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy.....	
Pembina, Dakota.....	29.10	739.1	29.92	760.0	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.98	761.5	30.02	762.5	79	26.1	70	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.....	
Phœnix, Arizona.....	28.68	728.5	30.36	771.1	85	29.4	54	NE	2	0.9	.....	0	8s	.....	SE	0	0	Fair.....	
Pike's Peak, Colorado.....	18.07	459.0	30.28	769 1	38	3.3	81	W	24	10.7	.....	5ck	0	SW	.....	0.14	3.6	Fair	
Pilot Point, Texas.....	29.14	740.1	29.91	759.7	87·	30.6	72	N	8	3.6	.....	2k	0	NW	.....	0	0	Fair...	
Ploche, Nevada.....	.....	.....	.....	.....	62	16.7	67	Calm	0	0	.....	2cs	2s	S	Calm	0	0	Fair	
Pittsburg, Pennsylvania.....	29.27	743.4	30.04	763.0	76	24.4	73	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.35	745.5	29.98	761.5	69	20.6	61	N	10	4.5	.....	10cs	0	W	.....	0	0 ·	Cloudy.....	
Portland, Maine	29.82	757.4	29.87	758.7	60	26.7	62	W	8	3.6	.....	1k	0	Calm	.....	0	0	Clear.....	
Portland, Oregon.....	30.02	762.5	30.09	764.3	52.0	11.1	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.82	630.4	30.18	766.6	67	19.4	79	W	1	0.4	.....	5ck	0	W	.....	0	0	Fair	
Punta Rassa, Florida.....	30.06	763.5	30.07	763.8	80	26.7	82	NE	10	4.5	.....	5c	0	W	.....	0.04	1.0	Fair..	
Red Bluff, California.....	29.43	747.5	29.78	756.4	72	22.2	27	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas.....	29.86	758.4	30.06	763.5	80	26.7	82	SE	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear.....	
Rochester, New York.....	29.40	746.7	29.98	761.5	73	22.8	76	W	4	1.8	.....	5k	2s	W	W	0.07	1.8	Cloudy.	
Roseburg, Oregon.....	29.60	749.3	30.08	764.0	49	9.4	85	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.71	754.6	29.79	756.7	61	16.1	71	S	5	2.2	.....	2c	0	Calm	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.49	749.0	30.03	762.7	77	25.0	77	S	8	3.6	.....	2cs	0	Calm	.....	0	0	Fair.....	
St. Marks, Florida.....	30.12	765.0	30.14	765.5	76	24.4	91	NE	4	1.8	.....	Haze	2s	Calm	Calm	0	0	Fair.....	
St. Paul, Minnesota.....	29.24	742.7	30.05	763.3	60	15.6	88	SW	6	2.7	.....	8c	0	W	.....	0	0	Fair	
Salt Lake City, Utah.....	25.64	651.2	29.97	761.2	71	21.7	49	Calm	0	0	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	
San Antonio, Texas.....	29.37	746.0	29.94	760.5	78	25.6	66	E	2	0.9	.....	5cs	0	SE	.....	0	0	Fair..... ... ,	
San Diego, California.....	29.82	757.4	29.89	759.2	64	17.8	69	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Sandusky, Ohio.....	29.38	746.2	30.02	762.5	78	25.6	73	N	1	0.4	.....	.....	10ks	.....	Calm	0	0	Threatening	
Sandy Hook, New Jersey....	29.88	758.9	29.91	759.7	83	28.3	67	SW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.	
San Francisco, California..	29.80	756.9	29.86	758.4	55	12.8	87	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico.....	23.44	595.4	29.98	761.5	60	15.6	49	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia.....	30.06	763.5	30.15	765.8	79	26.1	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Shreveport, Louisiana.....	29.89	759.2	30.10	764.5	79	26.1	82	S	2	0.9	.....	2ck	0	Calm	.....	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina.	30.14	765.5	30.18	766.6	75	23.9	93	W	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Socorro, New Mexico.....	25.48	647.2	29.54	750.3	75	23.9	52	S	4	1.8	.....	2k	0	Calm	.....	0	0	Fair.....	
Springfield, Ill	29.40	746.7	30.04	763.0	81	27.2	59	SW	5	2.2	.....	5c	0	Calm	.....	0	0	Cloudy	
Springfield, Massachusetts	29.83	757.7	29.95	760.7	77	25.0	82	S	2	0.9	.....	8cs	0	SW	.....	0	0	Cloudy	
Stockton, Texas.....	27.00	685.8	30.00	762.0	74	23.3	5	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.....	29.88	758.9	29.93	760.2	78	25.6	82	NW	12	5.4	.....	5k	0	W	.....	0	0	Fair.....	
Toledo, Ohio, ...	29.37	746.0	30.03	762.7	71	21.7	85	N	5	2.2	.....	.....	10s	.....	W	0.03	0.8	Threatening	
Tucson, Arizona.....	27.50	698.5	30.04	763.0	80	26.7	58	Calm	0	0	.....	2ck	2ks	E	Calm	0	0	Fair	
Umatilla, Oregon.....	29.65	753.1	30.14	765.5	54.0	12.2	61	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.15	740.4	29.93	760.2	79	26.1	82	SE	3	1.3	.....	0	5s	.....	SE	0.04	1.0	Fair.	
Vicksburg, Mississippi.....	29.84	757.9	30.08	764.0	80	26.7	65	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Virginia City, Montana.....	24.35	618.5	29.83	757.7	51	10.6	28	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.44	747.8	29.79	756.7	71	21.7	53	SE	1	0.4	.....	8c	0	Calm	.....	0	0	Fair.....	
Washington, D. C.....	29.96	761.0	30.07	763.8	78	25.6	73	W	3	1.3	.....	0	0	.....	.....	0	0	Cloudy.....	
Wickenburg, Arizona..	.....	.....	.....	.....	77	25.0	60	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina.....	30.08	764.0	30.16	766.1	75	23.9	95	Calm	0	0	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.....	
Winnemucca, Nevada.....	25.66	651.8	30.02	762.5	52	11.1	29	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.....	
Wood's Holl, Mass.....	29.89	759.2	29.92	760.0	75	23.9	85	W	14	6.3	.....	2ck	2s	SW	SW	0	0	Fair.....	
Yankton, Dakota.....	28.77	730.7	30.03	762.7	60	15.6	82	SE	20	8.9	.....	10cs	0	W	.....	0.09	2.3	Cloudy.....	
Yuma, Arizona.....	29.68	753.9	29.84	757.9	80	26.7	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.96	761.0	30.01	762.2	83	28.3	79	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink
Kingston, Jamaica, W. I....	30.18	766.6	30.19	766.8	81	27.2	78	Calm	0	0	.....	5	2s	Calm	... ...	0	0	Cloudy.....	James Gall.
Medellin, Colombia, S. A..*	25.26	641.6	.....	.....	65.0	18.3	87	Calm	.....	.....	0	5cs	4ks	.....	.....	0.37	9.4	.....	Thomas Herran.
Navassa, W. I.....	29.85	758.2	29.93	760.2	84	28.9	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	82	27.8	79	E	.....	.....	2	0	5k	.....	.....	0.010	0.25	Cloudy.....	O. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	29.62	752.3	29.63	752.6	84	28.9	79	E	4	1.8	.....	2c	2ks	NE	.....	0.01	0.3	Hazy..	G. O. Gellich.
York Factory, B. A.....	29.86	758.4	29.94	760.5	54.0	12.2	84	SW	13	5.8	.....	2k	2s	N	N	0	0	Fair.....	J. Fortescue & W. Wood.
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Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,336.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 42.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.30‡	769.6‡	.....	.....	82	27.8	91	NE	3	1.3	.....	.....	5	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.94‡	760.5‡	.....	.....	78.5	25.8	86	Calm	.....	.....	0	.....	8k;ck	.....	NE	0	0	.....	.....	Cloudy.....	
Adams. Mare I'd., Navy Yard, Cal.	29.83‡	757.7‡	.....	.....	62	16.7	88	SSW	.....	.....	3	.....	1	.....	SSW	.....	.....	.....	.....	Clear.....	
Alliance, Copenhagen, Denmark...	30.18‡	766.6‡	.....	.....	66	18.9	68	NE	.....	.....	1–2	.....	2	.....	NE	.....	.....	.....	.....	Pleasant.....	
Ashuelot, Yokohama, Japan	29.93‡	760.2‡	.....	.....	80	26.7	91	SW	.....	.....	2	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Colorado, New York, N. Y.....	29.97‡	761.2‡	.....	.....	80	26.7	74	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, N. 46° 54′, W. 69° 09′.....	29.95‡	760.7‡	.....	.....	65.6	18.7	95	WSW	.....	.....	5	.....	0	.....	.....	Slight	Slight	.....	.....	Misty.....	
Constitution. Navy Yard, Brooklyn, N.Y.	30.02‡	762.5‡	.....	.....	79	26.1	78	SW	.....	.....	1	.....	1	.....	SW	.....	.....	.....	.....	Hazy.....	
Enterprise, N. 56° 47′, E 18° 26′.....	30.14‡	765.5‡	.....	.....	67	19.4	79	NE	.....	.....	1	.....	2	.....	ENE	.....	.....	Smooth	.....	Clear.....	
Essex, S 34° —′, W. 20° —′.....	30.02‡	762.5‡	.....	.....	55	12.8	93	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Franklin. Norfolk, Va.	30.13‡	765.3‡	.....	.....	76	24.4	82	WSW	10	4.5	.....	.....	8	.....	.....	0	0	.....	.....	Fair.....	
Hartford. Rio de Janeiro, Brazil...	30.11‡	764.8‡	.....	.....	73	22.8	67	N	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mare I'd. Navy Yard, Cal.	29.89‡	759.2‡	.....	.....	59	15.0	76	SSW	7.2	3.2	.....	.....	2	.....	SSW	0	0	.....	.....	Clear.....	
Kearsarge, Charlottetown, Prince Edward Island	29.74‡	755.4‡	.....	.....	71	21.7	67	W	.....	.....	3	.....	3	.....	W	.....	.....	.....	.....	Clear.....	
Michigan. Chicago, Ill.....	29.87‡	758.7‡	.....	.....	75	23.9	90	ENE	.....	.....	2	.....	5	.....	WSW	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China.....	29.84‡	757.9‡	.....	.....	79	26.1	95	SE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan.....	29.92‡	760.0‡	.....	.....	80	26.7	??	S	.....	.....	0–1	.....	ck	.....	.....	0	0	.....	.....	D. clouds....	
New Hampshire. Port Royal, S. C.....	30.15‡	765.8‡	.....	.....	80	26.7	91	NE	10	4.5	.....	.....	10	.....	E	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†	30.03‡	762.7‡	.....	.....	63	17.2	78	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Cloudy.....	
Palos, Shanghai, China.....	29.82‡	757.4‡	.....	.....	77	25.0	95	SE	.....	.....	3	.....	2	.....	SSE	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	78	25.6	91	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	30.06‡	763.5‡	.....	.....	63	17.2	83	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Portsmouth. Portsmouth, N. H.....	29.89‡	759.2‡	.....	.....	77	25.0	95	W	.....	.....	2	.....	5	.....	W	0	0	Smooth	.....	Fair	
Powhatan, N. 32° 55′, W 78° 51′	30.12‡	765.0‡	.....	.....	81	27.2	78	SE	.....	.....	1	.....	10	.....	SSE	0.2	5.	Long	SE	Cloudy.....	
Quinnebaug, Monichia, Aegean Sea, Greece..	29.85‡	758.2‡	.....	.....	89	31.7	41	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 31° 38′, E. 126° 04′....	29.91‡	759.7‡	.....	.....	81	27.2	87	SE	.....	.....	4	.....	8	.....	Calm	.....	.....	Smooth	SE	Cloudy.....	
Richmond, Yokohama, Japan.....	29.95‡	760.7‡	.....	.....	83	28.3	??	SSE	.....	.....	2	.....	2	.....	N	0	0	Chop	SE	Clear.....	
Rio Bravo, Brownsville, Texas.....	30.01‡	762.2‡	.....	.....	77	25.0	95	NNW	.....	.....	1	.....	10	.....	S	0.22	5.6	.....	.....	Sprinkling...	
Santee, Annapolis, Md.....	30.06‡	764.0‡	.....	.....	79	26.1	74	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Saratoga, New London, Conn.....	29.97‡	761.2‡	.....	.....	79	26.1	86	SW	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Misty.....	
St. Louis, League Island, Pa	30.03‡	762.7‡	.....	.....	78	25.6	82	SW	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, N. 66° 12′, E. 6° 37′..	30.01‡	762.2‡	.....	.....	60	15.6	76	ESE	.....	.....	4–5	.....	10	.....	Calm	0.03	0.8	.....	.....	Cloudy.....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.84‡	757.9‡	.....	.....	65	18.3	58	SSW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Misty.....	
Vandalia, N. 33° 09′, W. 78° 24′....	30.19‡	766.8‡	.....	.....	81	27.2	78	WSW	.....	.....	2	.....	8	.....	S	0	0	Long	SE	Cloudy.....	
Wabash, Boston, Mass.....	29.92‡	760.0‡	.....	.....	76	24.4	73	SW	4	1.8	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, N. 25° 29′, W. 88° 40′.....	30.11‡	764.8‡	.....	.....	85	29.4	83	ESE	.....	.....	0–1	.....	2	.....	ESE	.....	.....	Mod'ate	E	Fair.....	
Wyoming, N. 32° 22′, E. 25° 00′.....	29.87‡	758.7‡	.....	.....	73	22.8	76	NNW	.....	.....	3–5	.....	6	.....	.....	.....	.....	Smooth	N	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, **instead of 7:35 A. M., Washington time** The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitaker.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 34° 50′, E. 164° 07′		30.18‡	766.6‡				SW			4				SW		Mod'ate	SW		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 35° 10′, E. 140° 51′		29.80‡	759.2‡	77	25.0	100	WNW			3		4cs			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 24° 19′, E. 118° 20′		29.68‡	753.9‡	80	26.7	87	S			3-4		7		SW		2	S	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
a. s. Leipzig, Capt. F. Pfeiffer, N. 46° 51′, W. 28° 19′		30.01‡	762.2‡	63.0	17.2	??	W			4		10		W	2 h'rs	Smooth	W	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		30.06‡	763.5‡				W			2		5?		W				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 12′, W. 70° 30′		30.01‡	762.2‡	77	25.0	91	SW			2		1		SW	0	Light	S	Clear	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James J orgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 50° 40′, W. 7° 10′		29.80‡	56.9‡	59	15.0	94	W			1		10				2	NE	Foggy	W. Randall
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Howe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 4, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.5	66.2	19.0	90	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.97	761.3	80.2	26.8	83	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.97	761.1	79.2	26.2	76	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Tourilliere.
La Calle	.....	.....	30.01	762.3	84.6	29.2	79	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.09	764.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.99	761.7	94.3	34.6	14	N	.....	.....	3	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.04	763.0	87.3	30.7	28	E	.....	.....	5	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	.....	.....	71.6	22.0	43	WNW	.....	.....	7	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.99	761.7	94.6	34.8	23	E	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.98	761.5	98.2	36.8	21	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.50	749.2	30.02	762.4	83.7	28.7	38	NE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.34	745.2	30.07	763.8	79.2	26.2	47	NNE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.17	741.0	30.01	762.3	76.5	24.7	53	Calm	.....	.....	0	.....	8c;s	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.82	732.1	30.00	762 1	80.2	26.8	68	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.57	726.7	29.95	760.7	71.8	22.1	61	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.66	728.0	29.93	760 1	82.8	28.1	71	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.0	30.01	762.2	75.9	24.4	60	NE	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.37	758.8	29.98	761.5	85.6	29.8	55	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29 61	752.1	30.06	763.5	81.9	27.4	43	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.74	755.5	30.01	762.2	82.0	27.8	43	N	.....	.....	1	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.89	759.1	29.99	761.7	80.4	31.9	52	E	.....	.....	2	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.31	744.5	30.05	763.2	80.4	26.9	54	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 884 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.68	753.9	29.78	756.4	55.2	12.9	.....	NNW	11	4.9	.....	.....	10	.....	.....	0.120	3.05	Overcast	W. Boswell.
Ardrossan	29.77	756.1	29.79	756.7	56	13.3	.....	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	Wm McNeil &G.Carrick
Armagh, Observatory	29.65	753.1	29.87	758.7	62.1	16.7	.....	SSW	8	3.6	.....	.....	3	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	59.4	15.2	.....	W	19	8.5	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.88	758.9	58.1	14.5	.....	WSW	42	18.8	.....	.....	9	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.49	749.0	29.89	759 2	63.6	17.6	.....	W	.....	.....	1	.....	6	.....	.....	0.06	1.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	79	26.1	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.85	758.2	29.94	760.5	66.8	19.3	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.93	760.2	69.0	20.6	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.85	758.2	29.98	761.5	67.6	19.8	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.81	757.2	29.88	758.2	61	16.1	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.00	762.0	30.03	762.7	62	16.7	.....	WSW	.....	.....	4	.....	7	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.87	758.7	30.10	764.5	62.7	17.1	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.77	705.4	30.06	763.5	71.7	22.1	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	77	25.0	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.82	757.4	60	15.6	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.93	760.2	29.98	761.5	82.6	28.1	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.58	751.3	29.78	756.4	54.8	12.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean. [C.
Great Yarmouth	29.92	760.0	29.93	760.2	68	20.0	.....	WSW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.82	757.4	29.99	761.7	64.7	18.2	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.81	757.2	30.03	762.7	64	17.8	.....	NW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.00	762.5	30.18	766.6	65	18.3	.....	SW	.....	.....	2	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.94	760.5	29.95	760.7	61	16.1	.....	SSW	.....	.....	5	.....	3	.....	.....	.....	.....	D clouds	John Tilston.
Jersey	29.88	758.9	30.17	766.3	61.5	16.4	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.96	761.0	30.00	762.0	66.0	18.9	.....	WSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Showery	The Met'g'l Office.
Leicester, Museum	29.69	754.1	29.94	760.5	64.5	18.1	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.84	757.9	29.91	759.7	82	27.8	.....	NE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.71	754.6	29.80	756.9	54	12.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.09	764.3	83.5	28.6	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.93	760.2	68.1	20.1	.....	SSW	.....	.....	5	.....	10k	.....	SW	0.002	0.05	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.43	747.5	29.94	760.5	62.9	17.2	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.99	761.7	62	16.7	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.98	761.5	30.06	763.6	66.0	18.9	.....	SW	.....	.....	5	.....	2	.....	.....	.....	.....	D. clouds	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.88	758.9	30.00	762.0	64	17.8	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
Saint Ann's Head	29.84	757.9	30.00	762.0	59	15.0	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.83	757.7	54.8	12.7	.....	E	23	10.3	.....	.....	10	.....	.....	.....	.....	Overcast	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.87	758.7	29.93	760.2	87.4	30.8	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds	Serg't.W. H.Lyne.
Sheffield	29.65	753.1	29.93	760.2	60.7	15.9	.....	W	.....	.....	2	.....	8	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.76	755.9	59.5	15.3	85	W	.....	.....	4	.....	10	.....	.....	0.630	16.00	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.91	759.7	59.7	15.4	.....	SW	17	7.6	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	59.7	15.4	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.10	764.5	30.11	764.8	63.1	17.3	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	W.Newcombe.
Valencia, Observatory	29.89	759.2	29.92	760.0	66	18.9	.....	SW	15	6.7	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.					60.7	15.9	.....												
Cape of Good Hope Obs'y	30.30	769.6	30.34	770.6	59.0	15.0	.....	ESE	24.0	10.7	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.80	756.9	53.8	12.1	.....	E	.....	.....	2	.....	10s	.....	.....	0.27	6.9	Overcast	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	70.1	21.2	62	SSE	23.5	10.5	.....	0	6	.....	ESE	0.15	3.8	Squally	C. Meldrum.
Melbourne, Observatory	30.17	766.3	30.26	768 6	43.8	6.6	83	Calm	0	0	.....	.....	5	.....	.....	0.01	0.3	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	25.98	659.9	.....	.....	68	20.0	.....	N	.....	.....	.....	2cs	Haze	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather	Observer
H. M. S. "Fawn," N. 40° 55'. E. 28° 45'	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 41° 35', W. 64° 55'	2	SW	Misty	Capt. Wm. Watson.
Atmosphere, N. 47° 10' W. 35° 50'	5	NW	Foggy	.....
Barque Commewyne, N. 42° 50', W. 40° 00'	.....	.....	D. clouds	Capt. A. Buchan.
Gordon Castle, N. 42° 05', W. 40° 05'	3	SW	Misty	.....
German Brig "W. von Freeden" N. 33° 30', W. 71° 55'	4	SE	D. clouds	Capt. H. v. Freeden.
Theophane, N. 16° 00', W. 27° 00'	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made us to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.21	665.7	29.93	760.2	66.6	19.2	93	SE			2	2cs				0.6	15.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.8	29.96	761.0	59.5	15.3	94	S			4		10					Raining
Faröe	29.85	758.3	29.87	758.8	65.3	18.5	95	SW			2		10					Foggy
Godthaab (Greenland)	29.93	760.2	29.97	761.3	52.5	11.4	84	NE			2		0					
Stykkisholm (Iceland)	30.03	762.8	30.08	763 9	50.7	10.4	74	E			6		5					
Thorshavn (Faröe)	29.92	760.0	29.96	760.9	50.0	10.0	88	Calm			0		10					
Vestervig	29.74	755.5	29.85	758.3	65.7	18.7	95	SE			2		10					Thunder-storm.

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.62	752.3	30.17	766.3	69.8	21	73	NW			1		8kn		SW	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.98	761.6	30.02	762.4	72.7	22.6	66	SW			2		8		NE	0.126	3.2	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.82	757.4	30.07	763.8	66.2	19.0	66	W			3				NW	0.098	2.5		Klein, Commandant.
Avignon, Normal School	29.91	759.8	29.99	761.8	93.6	34.2	30	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.59	751.5	30.13	765.2	72.5	22.5	75	W			1		5kn		W	0.134	3.4	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.84	758.0	30.10	764.6	72.0	22.2	63	WSW			2		10		WSW	0.08	2.	Covered	Frere Eugene Marie.
Besançon, Normal School	29.24	742.8	30.10	764.5	78.4	25.8	60	N			2		5	N		0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.29	743.3	30.20	767 1	80.6	27	60	N			5		ck	N	N	0	0		Marlot, Director.
Bourges, Normal School	29.59	751.5	30.12	765.1	72.3	22.4	87	W			3		ck	W	W	0.217	5.5		M. Gence, Director.
Brest, Naval Observatory	29.87	758.8	30.12	765.0	69.4	20.8	72	WSW			1		2k		W	0.128	3.25		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.8	30.04	762.9	78.1	25.6	55	WNW			2		5	WNW	WNW	0	0	Cloudy	September, Dir.
Caen, Normal School	30.09	764.2	30.16	766.1	68.0	20	74	W			1		10		W	0	0	Covered	M. Bietrix, Director.
Chartres, Normal School	29.58	751.2	30.18	765.3	69.8	21	67	E			1		10		E	0.12	3.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.79	756.7	30.1	764.4	81.9	27.7	63	SSW			1		5					Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.82	731.9	30.14	765.5	68.0	20.0	76	NE			1		10			0	0		Alluard, Director.
Commercy, Normal School	29.28	743.6	30.11	764.9	72.3	22.4	72	W			1		5k	W	W	0.098	2.5	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.95	735.3	30.09	764.3	93.4	34.1	22	W			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.32	744.7	30.05	763.2	82.0	27.8	65	NW			1		2cs		W	0	0	Slightlycl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.97	761.2	30.17	766.4	69.1	20.6	69	WNW			1		8		WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.84	757.8	30.13	765.4	72.5	22.5	77	WSW			2		5		SW	0.045	1.15	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.21	741.9	30.09	764.2	89.1	26.7	54	SE			2		2kn	SE	SE	0	0	Slightlycl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.19	766.8	30.29	769.4	66.6	19.2	67	WSW			2				WSW	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.48	748.8	30.07	763.8	79.7	26.5	55	N			1		5		SW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.89	754.0	29.95	760.6	82.6	28.1	54	WSW			2-3		2		W	0	0		E. Stephan, Director
Mirecourt, Normal School	29.07	738.3	30.07	763.7	75.2	24	74	SW			1		10k	SW	SW			Covered	Barbier, Director
Mont-Louis	25.00	634.9	30.31	769.9	72.7	22.6	56	E	20.6	9 2					NE	0	0		M. Cave
Nice	29.96	761.0	29.99	761.8	87.1	30.8	55	SE			1		1	SE	SE	0	0	Hazy	M. Boissieré, Director.
Nismes, Normal School	29.80	756.9	29.99	761.7	92.5	33.6	37	SW			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.84	758.0	70.5	21.4	64	W			2		9		WSW	0.173	4.4		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.74	577.5			59.0	15.0		SW.			2		1		SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.95	760.8	30.06	763.4	82.4	28.0	49	N	11.2	5.0			0			0	0		Dr. Flues.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.39	644.9			53.4	11.9	100	NNW			1					0.031	0.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.13	765.3	30.16	766.1	76.5	24.7	55	W			1		2	W	W	0.04	1.	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.02	762.6	30.11	764.7	68.0	20.0	71	W			1		5		W	0.020	0.5	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.12	765.0	30.15	765.8	66.2	19.0	60	WNW			3		1	WNW	WNW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.90	761.0	30.18	765 3	71.1	21.7	60	SW			2		8	SW	WSW	0.232	5.9		E. Renou, Director.
Tarbes, Normal School	29.08	738.6	30.12	765.1	71.6	22	82	NW			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.48	748.8	30.21	767.3	73.4	23.0	57	NW			2		7			0	0		M. Julier Mercadier.
Tours	29.98	761.5	30.18	766.5	71.6	22.0	68	WNW			1		7		WSW	0.224	5.7	⅔ covered	Cousin-Marquet.
Versailles, Observatory	29.64	752.8	30.13	765.3	69.1	20.6	62	SW			1					0.202	5.14		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.40	746.7	30.07	763.8	84.2	29	52	NW			2		5		N	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	80.6	27										0	0		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.71	754.7	29.74	755.3	78.1	25.6	87	SE	13.4	6.0		9ck		SSW		0.008	0.2	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.. Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft.: Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.5	30.04	762.9	81.0	27.2	61	W			4		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.81	757.1	29.97	761.2	86.5	30.3	45	SW			3		2			0	0		Prof. Dr. Arndt.
Breslau	29.54	750.4	30.08	763.9	82.4	28.0	37	S			2		0			0	0		Royal University Obs'y.
Carlsruhe	29.61	752.1	30.02	762.4	82.4	28.0	56	SW			0		9	SW		0	0		Albert Sens.
Cassel	29.40	746.8	30.01	762.2	79.2	26.2	62	N			2		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.83	757.7	29.99	761.8	80.6	27.0	60	SW			3		6k			0	0		Director Lose.
Emden			29.90	759.4	75.0	23.9	70	WSW			2		10			0.197	5.0		Prof. Dr. Prestel.
Frankfort on the Main	29.66	753.3	30.02	762.4	81.7	27.6		NE			1		2			0.008	0.2		Physical Society.
Freienwalde on the Oder	29.93	760.2	29.97	761.2	89.1	31.7	52	S			3		0			0	0		Dr. Assmann.
Friedrichshafen	28.67	728.1	30.04	762.9	77.2	25.1	76	SW			4		2	SW		0.043	1.1		M. Wilhelm.
Hamburg	29.86	758.4	29.93	760.1	73.0	22.8	79	E			3		1s			0.039	1.0	Clear	Captain F. Hegemann
Kiel	29.91	759.6	29.92	760.0	70.3	21,3	86	ESE			2		5			1.459	37.04		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.00	762.1	30.08	764.1	79.7	26.5	49	E			2		2			0	0		Prof. E. Luther.
Köslin			29.99	761.7	80.4	26.9		S			2		1			0	0		H. Müller.
Leipsic Observatory	29.56	750.9	29.96	760.9	88.9	31.6	61	S			1		8			0	0		Prof. Bruhns, Privy Counselor.
Memel	30.07	763.8	30.12	765.0	66.2	19.0	85	WNW			1		1k						Skulweit.
Munich (München)	28.26	717.7	30.12	765.1	77.2	25.1	61	W			4		8			0	0		Dr. C. Lang.
Neufahrwasser	30.03	762.7	30.04	763.1	74.5	23.6	69	ENE			3		3			0	0		A. Lothes.
Posen	29.72	754.9	29.99	761.8	83 1	28.4	40	SE			4		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.54	750.4	30.07	763.7	80.8	27.1	49	NNE			4		8	NW		0	0		Imp. University Observatory.
Stuttgart	29.10	739.2	29.99	761.8	81.6	27.5	50	NW			2		3	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.56	725.3	29.98	761.4	80.2	26.8	57	WNW	11	5			5ck		WNW	0	0	Hazy	T. Hopfner.
Wustrow	29.97	761.2	29.99	761.8	76.1	24.5	74	NE			3		10s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.7	29.97	761.2	84.9	29.4		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.5	29.44	747.8	82.9	28.3	77	W	23.0	10.3			5	S	W	0	0	D. clouds
Deesa	29.02	737.1	29.48	748.8	88.8	31.6	54	SW	14.2	6.4			9		WSW	0	0	D. clouds
Bombay	29.59	751.5	29.62	752.5	77.0	25.0	99	W	21.0	9.4			10		WSW	2.08	52.8	Raining
Poona	27.78	705.7	29.65	753.1	71.5	21.9	92	WSW	11.0	4.9			10		WSW	0.44?	111.8?	Drizzling
Lahore	28.58	725.9	29.28	743 6	102.3	39.1	37	NE	4.2	1.9			3			0	0	D. clouds
Belgaum	27.17	690.2	29.74	755.3	68.3	20.2	97	W	21.0	9.4			10		W	1.72	43.7	Raining
Roorkee	28.55	725.3	29.44	747.9	78.8	26.0	92	E	4.8	2.2			9			0.13	3.3	Showery
Agra	28.88	733.4	29.44	747.6	81.7	27.6	87	E					10		E	0	0	
Nagpur	28.47	723.1	29.51	749.5	74.9	23.8	95	WSW	8.1	3.6			10		E	0.60	15.2	Overcast
Lucknow	29.09	738.9	29.46	748.2	82.5	28.1	93	ENE	0.2	0.1			10			0.32	8.1	Overcast
Allahabad																		
Patna	29.23	742.5	29.41	747.0	85.0	29.4	77	E	2.4	1.1			6	E	E	0.12	3.0	D. clouds
Hazaribagh	27.41	696.1	29.40	746.6	78.8	24.9	90	E	10.0	4.5			10		E	0.48	12.2	Showery
Cuttack	29.34	745.2	29.42	747.2	80.8	27.1	86	Calm	3.0	1.3			10			0.13	3.3	Drizzling
Calcutta (Alipore)	29.37	746.1	29.40	746.6	80.7	27.1	91	S	3.0	1.3			10	S				Drizzling
Goalpara	29.09	738.8	29.47	748.5	84.8	29.3	74	Calm	4.6	2.0			9			0.36	9.1	D. clouds
Chittagong	29.45	748.1	29.54	750.4	78.2	25.7	93	SE	9.7	4.3			10			0.01	0.3	Gloomy
Sibsagar	29.17	741.0	29.50	749.3	87.1	30.6	80	ENE	1 6	0.7			5	SW	SW	0	0	D. clouds
Jubbulpore	28.09	713.4	29.35	745.5	77.0	25.0	91	NW	2.8	1.2			10		NW	0.01	0.3	Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	nches.	Millimeters.		
Udine	29.61	752.0	30.00	761.9	87.6	30.9	37	E	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.47	748.6	29.97	761.1	90.5	32.5	44	SSE	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.88	759.0	29.99	761.7	86.5	30.3	45	NW	1.3	0.6	.....	.....	3	E	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.09	738.9	29.96	760 9	87.8	31.0	41	NW	6.3	2.8	.....	.....	5	W	.....	0.276	7.0	.....	Prof. P. F. Denza.
Genoa	29.79	756.6	29.97	761.2	86.7	30.4	53	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.13	714.5	29.95	760.8	87.4	30.8	43	NE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.95	760.6	29.99	761.8	80.2	26.8	64	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.1	29.94	760.4	85.0	35.0	28	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.7	29.99	761.8	83.7	28.7	70	SW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.77	756.2	29.94	760.5	91.4	33.0	29	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.66	753.3	29.90	759.5	90.1	32.3	27	WSW	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	29.04	737.7	29.89	759.1	91.8	33.2	63	N	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.78	756.4	29.97	761.1	84.7	29.3	52	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.71	754.7	29.96	760.9	86.0	30.0	43	E	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.3	29.93	760.2	87.3	30.7	64	ESE	4.9	2.2	.....	.....	6	E	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.1	29.97	761.2	90.3	32.4	40	WSW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. T. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	80.9	27.2	77	N	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.91	759.7	79.9	26.6	84	WSW	1.0	0.4	.....	.....	2cs;8	.....	.....	0	0	Clear	S. Takahayashi.
Tokei (Yeddo) Observatory	29.78	756.4	29.84	757.9	78.9	26 1	81	SSW	4.6	2 1	.....	1cs	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.81	757.2	29.86	758 4	81.9	27.7	77	S	3.3	1.5	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.03	635.7	29.97	761.3	63.0	17.2	72	Calm	.....	.....	0	.....	8	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.42	620.2	30.01	762.2	66.2	19.0	74	SE	.....	.....	2	3c	4k	E	.....	0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.4	30.06	763.4	66.7	19.7	83	Calm	0	0	.....	3c	7k	SE	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.6	17.0	73	N	.....	.....	1	2c	8ks	.....	NE	0	0	½ clouded	M. V. de Leon, M. E
Tlacotalpam	29.97	761.2	29.98	761.5	76.1	24.5	93	W	.....	.....	1	6	7	S	W	0	0	Covered	Prof. M. M. Chazaro.
San Luis Potosi	24.25	616.0	30.17	766.4	62.1	16.7	49	E	.....	.....	1	9	0	E	.....	0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. T. Rossell.
Zacatecas	22.58	573 4	30.13	765.3	57.6	14.2	80	E	.....	.....	4	8k	0	SE	.....	0	0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.44	595.4	30.16	766.0	55.4	13.0	82	E	0.2	0.1	.....	.....	7ck	.....	NE	Inap	Inap	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.58	751.4	29.87	758.7	81.0	27.2	91	SE	.....	.....	2	1c	7n	Calm	SW	0.008	2.0	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.03	762.8	30.03	762.8	69.6	20.9	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.91	759.6	29.96	761.0	72.0	22.2	.....	SW	.....	.....	2	.....	.....	.....	.....	0.169	4 3	.....	
Helder	29.96	761.0	29.96	761.0	66.4	19.1	.....	SW	.....	.....	4	.....	.....	.....	.....	0.055	1.4	.....	
Hellevoetsluis	30.00	762.1	30.00	762.1	68.0	20.0	78	WSW	.....	.....	5	.....	.....	.....	.....	0.008	0.2	.....	
Utrecht	29.97	761.2	30.02	762.4	72.5	22.5	72	WSW	.....	.....	2	.....	8	.....	.....	0.209	5.3	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.74	755.5	29.80	756.9	57.6	14.2	87	NNW	4.0	1.8	.....	.....	10	.....	.....	1.197	30.4	Raining.....	
Brönö	29.90	759.4	29.94	760.4	60.4	15.8	63	SW	9	4	.....	.....	6	.....	.....	0	0	.....	
Christiania	29.80	756.9	29.94	760.5	67.5	19.7	64	WSW	4	2	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.89	759.1	29.93	760.2	60.4	15.8	60	NE	11	5	.....	.....	3	.....	.....	0.197	5.0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 1h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.14	765.6	30.33	770.3	75.2	24.0	80	SSW	3.1	1.4	.....	.....	4	.....	.....	0	0.	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.1	29.99	761.7	86.9	30.5	24	WNW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.0	30.21	767.2	73.2	22.9	58	SW	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.2	30.09	764.2	71.6	22.0	43	NNW	22.4	10.0	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.28	769.2	30.37	771.1	80.6	27.0	56	SSE	14.3	6.4	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	WNW	Overcast. 2 hr's rain.	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	A. A. A. Loureiro.
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	1	NE	Overcast.	F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	J.G. Felgo 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	SW	Overcast. 5 hr's rain-fall.]	
.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.66	753.4	30.07	763.6	78.8	26.0	50	S	2	1	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.69	754.2	30.10	764.4	73.6	23.1	44	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.90	759.5	30.13	765.4	72.9	22.7	45	SSW	4	2	.....	.....	3csk	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.05	763.2	30.07	763.6	69.8	20.7	73	NW	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.32	744.6	29.98	760.2	65.5	18.6	60	N	9	4	.....	.....	7k;cks;	ckn].....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.85	758.3	29.93	760.1	72.1	22.3	42	N	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.80	756.9	29.82	757.4	67.1	19.5	72	NW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.41	747.0	29.94	760.5	66.7	19.3	53	N	13	6	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.7	29.64	752.8	62.4	17.0	46	WNW	22	10	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.97	761.2	29.99	761.7	65.7	18.7	57	WNW	13	6	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.28	718.4	29.62	752.3	79.0	26.1	40	NW	45	20	.....	.....	1cs	.....	.....	.....	.....	Light clouds	Physical Observatory.
Astrakhan	29.58	751.4	29.59	749.3	83.1	28.4	40	N	2	1	.....	.....	6ckn	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.21	741.8	29.65	753.1	72.5	22.5	41	N	9	4	.....	.....	3	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.47	748.5	29.72	755.0	72.0	22.2	39	NNE	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.83	732.2	29.76	755.9	55.8	13.2	66	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.25	742.9	29.46	748.3	97.5	36.4	33	SSE	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.03	712.0	29.48	748.7	89.6	32	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.16	740.7	29.65	753.0	62.1	16.7	46	NW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.4	29.74	755.4	69.6	20.9	74	SSW	2	1	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.59	751.5	29.73	755.1	81.1	27.3	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.65	753.1	29.75	755.6	71.6	22.0	92	S	7.8	3.5	.....	.....	6cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.95	760.7	30.05	763.3	80.6	27	63	SE	4.7	2.11	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.20	767.0	30.25	768.4	65.5	18.6	85	NW	1.9	0.83	.....	.....	10	.....	.....	0.039	1.0	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.21	691.0	.....	.....	67.1	19.5	59	NE	11.3	5.04	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.82	706.6	29.88	759.0	93.0	33.9	23	SE	6.7	3.00	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.85	758.3	30.00	761.9	92.1	33.4	37	E	6.6	2.92	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.8	30.12	765.0	69.6	20.9	66	NE	13.0	5.8	.....	2	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.7	30.01	762 3	81.3	27.4	81	ENE	1.1	0.5	.....	1c	0	ESE	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.81	757.0	29.86	758.4	82.4	28.0	91	ESE	0	0	.....	3cs	5ks	W	E	0.964	24.5	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.0	77.5	25.3	61	Calm	0	0	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.94	760.5	30.03	762.8	81.3	27.4	79	SE	.....	.....	.....	2cs	2k	SE	SE	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.97	761.1	30.00	762.1	68.0	20.0	.....	S	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.93	760.3	29.98	761.6	70.9	21.6	61	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.89	759.3	29.95	760.6	73.0	22.8	64	S	.....	.....	6	.....	1	.....	.....	0	0	.....	
Stockholm	29.84	757.9	30.02	762.4	75.2	24.0	57	SSW	.....	.....	2	.....	6	.....	.....	0	0	.....	
Wisby	29.92	759.9	29.98	761.4	68.7	20.4	76	W	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.91	759.6	29.99	761.8	74.1	23.4	58	SW	9.6	4.3	.....	.....	7	WSW	SW	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 55° 23', E 12° 55'	30.03	762.8	30.04	763.0	59.7	15.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.67	728.2	30.03	762.7	78.1	25.6	50	NNE	.....	.....	2	.....	5	.....	.....	0	0	Smoky	The Observatory.
Zurich	28.49	723.6	30.04	762.9	82.4	28.0	60	W	.....	.....	1	.....	3	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.4 mm.; Thermometer, +3.2 Cent.; Relative Humidity,—3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	761.9	79.3	26.3	39	NE	17	7.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.7	90.0	32.2	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.7	88.7	31.5	53	WSW	.....	.....	2	.....	1s	.....	SW	0	0	D clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.79	756.7	29.85	758.2	66	18.9	64	Calm	0	0	.....	2ck	0	SW	.....	0	0	Fair	G. A. Biah.
Charlottetown, P. E. Island	29.80	756.9	29.84	757.9	69	20.6	57	SE	4	1.8	.....	0	8s	.....	SW	0.015	0.38	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.80	756.4	62.5	16.9	84	W	.....	.....	1	2cs	8s	NW	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.67	753.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.78	756.4	29.81	757.2	56	13.3	84	W	12	5.4	.....	5k	8s	NW	NW	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.88	758.9	68.1	20.1	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.09	738.9	29.89	759.2	59	15.0	79	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.88	733.5	29.95	760.7	63	17.2	83	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.70	754.4	29.82	757.4	70	21.1	80	NE	2	0.9	.....	.....	10ks	.....	NE	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.64	752.8	30.00	762.0	63.7	17.6	75	NW	.....	1	7cs	0	NW	.....	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.60	751.8	29.93	760.2	61	16.1	79	NW	3	1.3	.....	Haze	Sm'e	Calm	SW	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	29.81	757.2	29.84	757.9	62.8	17.1	100	SW	3	1.3	.....	3k	4n	SW	.....	0.04	1.0	Thunder-storm	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.69	754.1	29.88	758.9	69	20.6	65	W	5	2.2	.....	10c	0	NW	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.27	743.4	29.95	760.7	60	15.6	94	Calm	0	0	.....	2k	2ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.96	761.0	66.5	19.2	74	NW	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.30	744.2	29.97	761.2	65	18.3	84	N	3	1.3	.....	10k	0	W	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	29.74	755.4	29.79	756.7	66.6	19.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.96	761.0	66	18.9	80	E	2	0.9	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec	29.58	751.3	29.89	759.2	62	16.7	86	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.47	748.5	29.91	759.7	58	14.4	91	NW	5	2.2	.....	10cs	0	NW	.....	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.81	757.2	29.86	758.4	69	20.6	70	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.70	754.4	29.86	758.4	69	20.6	65	NE	4	1.8	.....	0	7k	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.24	742.7	29.94	760.5	61	16.1	81	SE	6	2.7	.....	.....	10kc	.....	E	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.80	756.9	29.84	757.9	62	16.7	80	NE	2	0.9	.....	0	8n	.....	.....	Inap.	Inap.	Clearing	T. C. Hill.
*Toronto, Ontario	29.61	752.1	29.98	761.5	64	17.8	70	NW	4	1.8	.....	8ck	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.80	756.9	29.82	757.4	78.0	25.6	50	N	2	0.9	.....	8k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.62	752.3	29.87	758.7	60.5	15.8	85	SW	.....	.....	.....	10c	10s	.....	.....	0.03	0.8	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.95	760.7	72	22.2	71	Calm	0	0	.....	10cs	Haze	W	.....	0.02	0.5	Cloudy	
Alpena, Michigan	29.29	744.0	29.92	760.0	58	14.4	82	W	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	59	15.0	100	SW	3	1.3	.....	.....	10n	.....	SW	0.07	1.8	Cloudy	
Atlanta, Georgia	28.92	734.6	30.01	762.2	77	25.0	72	W	3	1.3	.....	8c	0	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	29.94	760.5	29.95	760.7	79	26.1	82	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.90	759.4	30.09	764.3	76	24.4	82	SE	3	1.3	.....	2k	2s	SW	SE	0.95	24.1	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	80	26.7	70	W	2	0.9	.....	5k	5s	W	W	Inap.	Inap.	Cloudy	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	80	26.7	78	NW	5	2.2	.....	2ck	Haze	Calm	Calm	0	0	Clear	
Bismarck, Dakota	28.25	717.5	30.11	764.8	67	13.9	81	N	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Boerne, Texas	28.59	726.2	29.85	758.2	76	24.4	61	S	6	2.7	.....	5k	0	Calm	.....	0	0	Fair	
Boise City, Idaho	27.10	688.3	30.06	763.5	66	13.3	57	Calm	0	0	.....	2k	Sm'e	Calm	Calm	0	0	Fair	
Boston, Massachusetts	29.77	756.1	29.92	760.0	75	23.9	69	NW	4	1.8	.....	5ck	2s	NW	Calm	0	0	Fair	
Brackettville, Texas	28.87	733.3	29.86	758.4	75	23.9	90	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.96	735.6	29.93	760.2	56	13.3	87	N	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Brownsville, Texas	29.91	759.7	29.95	760.7	77	25.0	95	Calm	0	0	.....	8cs	0	Calm	.....	0.18	4.6	Fair	
Buffalo, New York	29.27	743.4	29.94	760.5	67	19.4	69	E	5	2.2	.....	8cs	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	46	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.64	752.8	29.92	760.0	68	20.0	65	E	3	1.3	.....	8ck	0	W	.....	0	0	Fair	
Cairo, Illinois	29.63	752.6	30.00	762.0	84	28.9	75	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	81	27.2	78	SW	10	4.5	.....	1k	1ks	W	SW	0	0	Clear	
Cape Henry, Virginia	30.01	762.2	30.03	762.7	75	23.9	81	SW	7	3.1	.....	5k	2ks	W	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.06	763.5	30.08	764.0	81	27.2	74	W	4	1.8	.....	2k	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.94	760.5	29.97	761.2	75	23.9	85	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	9.24	742.7	29.92	760.0	76	24.4	91	Calm	0	0	.....	.....	10s	.....	Calm	1.00	25.4	Cloudy	
Charleston, South Carolina	30.00	762.0	30.06	763.5	79	26.1	87	E	1	0.4	.....	5k	0	E	.....	0.14	3.6	Fair	
Charlotte, North Carolina	29.22	742.2	30.00	762.0	73	22.8	95	SW	3	1.3	.....	.....	10s;fg	.....	S;Calm	0.01	0.3	Cloudy	
Chattanooga, Tennessee	29.27	743.4	30.04	763.0	74	23.3	86	S	2	0.9	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Dense smoke	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	61	16.1	66	SE	4	1.8	.....	2ck	5ks	W	SE	0	0	Cloudy	
Chicago, Illinois	29.27	743.4	29.92	760.0	75	23.9	77	SE	2	0.9	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Cincinnati, Ohio	29.33	745.0	29.94	760.5	78	25.6	73	NW	1	0.4	.....	8c;ck	0	NW	.....	0.04	1.0	Fair	
Cleveland, Ohio	29.25	742.9	29.95	760.7	69	20.6	90	S	3	1.3	.....	.....	10n	.....	SW	0.21	5.3	Light rain	
Coleman City, Texas	28.23	717.0	29.83	757.7	74	23.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.13	739.9	29.92	760.0	76	24.4	73	S	2	0.9	.....	5cs	Sm'e	Calm	Calm	0.11	2.8	Fair	
Concho, Texas	28.13	714.5	29.73	755.1	76	24.4	64	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.66	753.4	30.11	764.8	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0.14	3.6	Clear	
Davenport, Iowa	29.31	744.5	29.92	760.0	67	19.4	95	SW	9	4.0	.....	.....	10s	.....	SW	.22	31.0	Threatening	
Deadwood, Dakota	25.52	648.2	.....	.....	57	13.9	58	SE	1	0.4	.....	5k	2s	SE	SE	0	0	Fair	
Decatur, Texas	28.86	733.0	29.96	761.0	85	29.4	61	S	10	4.5	.....	2ck	0	Calm	.....	0	0	Fair	
Denison, Texas	29.21	741.9	29.97	761.2	79	26.1	74	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	68	20.0	60	S	4	1.8	.....	5ck	5s	W	W	0	0	Cloudy	
Des Moines, Iowa	29.08	737.3	29.86	758.4	71	21.7	80	SE	4	1.8	.....	5c	0	NW	.....	0.04	1.0	Fair	
Detroit, Michigan	29.27	743.4	29.91	759.7	70	21.1	90	W	1	0.4	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Dodge City, Kansas	27.36	694.9	29.52	749.8	74	23.3	63	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.23	742.4	29.90	759.4	69	20.6	85	N	1	0.4	.....	2ck	8ks	Calm	NW	0.88	22.4	Clearing	
Duluth, Minnesota	29.20	741.7	29.84	757.9	67	19.4	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.22	742.2	29.92	760.0	79	26.1	82	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	29.79	756.7	29.86	758.4	66	18.9	69	N	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	91	Calm	.....	.....	0	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	26.25	666.7	.....	.....	64	17.8	73	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.25	742.9	29.93	760.2	73	22.8	85	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Escanaba, Michigan	29.25	742.9	29.87	758.7	69	20.6	75	W	6	2.7	.....	2k	0	W	.....	0	0	Fair	
Florence, Arizona	28.42	721.9	30.02	762.5	75	23.9	77	Calm	0	0	.....	0	8s	.....	Calm	0.78	19.8	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.00	711.2	29.81	757.2	51	10.6	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	68	20.0	70	SW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Fort Gibson, Indian Ter	29.44	747.8	29.94	760.5	85	29.4	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	67	19.4	74	NW	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Fort Griffin, Texas	28.77	730.7	29.99	761.7	76	24.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.47	697.7	.....	.....	60	15.6	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.79	705.8	29.63	752.6	73	22.8	81	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.83	757.7	76	24.4	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.21	716.5	.....	.....	51	10.6	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.78	756.4	80	26.7	59	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	84	28.9	75	S	3	1.3	.....	Haze	2ks	Calm	S	0	0	Clear	
Graham, Texas	28.93	734.8	29.93	760.2	77	25.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.29	744.0	29.91	759.7	66	18.9	79	SE	3	1.3	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.92	760.0	77	25.0	69	S	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.17	740.9	29.90	759.4	75	23.9	81	Calm	0	0	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Indianola, Texas	30.00	762.0	30.03	762.7	82	27.8	83	SE	1	0.4	.....	8c	2ks	Calm	SE	0	0	Cloudy	
Jacksboro, Texas	28.88	733.5	29.96	761.0	80	26.7	82	S	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	82	27.8	79	NE	2	0.9	.....	0	0	.....	.....	0.13	3.3	Clear	
Keokuk, Iowa	29.32	744.7	29.91	759.7	70	21.1	85	E	13	5.8	.....	2k	2s	W	W	0.04	1.0	Fair	
Key West, Florida	29.99	761.7	30.03	762.7	83	28.3	79	E	8	3.6	.....	1k	0	Calm	.....	0	0	Clear	
Kittyhawk, North Carolina	29.97	761.2	29.99	761.7	77	25.0	82	W	12	5.4	.....	8cs	0	SW	.....	0.27	6.9	Fair	
Knoxville, Tennessee	29.07	738.4	30.04	763.0	73	22.8	90	Calm	0	0	.....	10c	Fog	Calm	.....	0.15	3.8	Foggy	
La Crosse, Wisconsin	29.20	741.7	29.90	759.4	68	20.0	90	S	1	0.4	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.85	758.2	82	27.8	56	S	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Leavenworth, Kansas	29.04	737.6	29.83	757.7	80	26.7	66	S	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Little Rock, Arkansas	29.68	753.9	30.02	762.5	78	25.6	91	SW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.52	749.8	29.85	758.2	65	18.3	78	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.42	747.3	29.95	760.7	81	27.2	67	S	3	1.3	.....	8c;cs	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.34	745.2	29.90	761.7	79	26.1	73	SW	3	1.3	.....	2c	0	N	.....	0	0	Clear	
Madison, Wisconsin	28.94	735.1	29.88	758.9	68	20.0	84	S	8	3.6	.....	5c	0	W	.....	0.08	2.0	Fair	
Marquette, Michigan	29.15	740.4	29.82	757.4	68	20.0	70	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.41	721.6	30.10	764.5	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.68	753.9	30.00	762.0	82	27.8	78	S	2	0.9	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.20	741.7	29.90	759.4	68	20.0	90	W	4	1.8	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Mobile, Alabama	30.03	762.7	30.07	763.5	79	26.1	87	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.84	757.9	30.06	763.5	79	26.1	83	S	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.01	736.8	29.95	760.7	74	23.3	81	Calm	0	0	.....	8k	0	SW	.....	0.31	7.9	Cloudy	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	45	7.2	60	NW	25	11.2	.....	10k	0	NW	.....	0	0	Cloudy.	
Nashville, Tennessee	29.50	749.3	30.01	*762.2	82	27.8	75	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
New Haven, Connecticut	29.83	757.7	29.94	760.5	74	23.3	76	N	5	2.2	.....	8ck	2s	Calm	Calm	Inap.	Inap.	Cloudy.....	
New London, Connecticut	29.87	758.7	29.92	760.0	76	24.4	73	N	4	1.8	.....	6ck	Haze	W	Calm	0.11	2.8	Fair.....	
New Orleans, Louisiana	30.01	762.2	30.07	763.8	82	27.8	79	W	2	0.9	.....	0	0	.....	.....	0.18	4.6	Clear.	
Newport, Rhode Island	29.88	758.9	29.92	760.0	76	24.4	69	NW	6	2.7	.....	5k	2s	W	Calm	0.08	2.0	Fair.....	
New York, New York	29.78	756.4	29.95	760.7	77	25.0	72	NW	2	0.9	.....	5ck	Haze	SW	Calm	Inap.	Inap.	Fair.....	
Norfolk, Virginia	29.98	761.5	30.03	762.7	80	26.7	74	SW	7	3.1	.....	0	5s	.....	SW	0	0	Fair.....	
North Platte, Nebraska	27.08	687.8	29.55	750.6	67	19.4	95	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	46.0	7.8	92	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska	28.70	729.0	29.74	755.4	71	21.7	85	N	1	0.4	.....	5c;ck	2s	W	Calm	0	0	Fair...	
Oswego, New York	29.64	752.8	29.95	760 7	68	20.0	70	NW	6	2.7	.....	8c	0	W	.....	0	0	Fair.....	
Pembina, Dakota	29.04	737.6	29.84	757.9	55	12.8	87	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Philadelphia, Pa	29.90	759.4	29.95	760.7	80	26.7	70	NW	8	3.6	.....	2ck	Fog	N	Calm	0	0	Fair.....	
Phœnix, Arizona	28.60	726.4	30.80	769.6	75	23.9	72	NW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	33	0.6	100	NW	20	8.9	.....	.....	10s	.....	W	0.77	19.6	Cloudy.....	
Pilot Point, Texas	29.13	739.9	29.92	760.0	85	29.4	79	NE	8	3.6	.....	2k	0	N	.....	0	0	Fair.....	
Ploche, Nevada	.....	.....	.....	.....	57	13.9	87	Calm	0	0	.....	0	2s	.....	S	0.13	3.3	Fair.....	
Pittsburg, Pennsylvania	29.18	741.1	29.95	760.7	71	21.7	80	SE	2	0.9	.....	5ck	Fog	Calm	Calm	0.22	5.6	Fair.....	
Port Huron, Michigan	29.28	743.7	29.91	759.7	66	18.9	64	SE	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Portland, Maine	29.88	758.9	29.93	760.2	72	22.2	67	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear.....	
Portland, Oregon	29.94	760.5	30.02	762.5	54.5	12.5	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.79	629.6	30.15	765.8	56	13.3	94	SW	2	0.9	.....	0	0	.....	.....	0.92	23.4	Clear.....	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	80	26.7	78	NE	8	3.6	.....	2cs	0	Calm	.....	0	0	Clear.....	
Red Bluff, California	29.47	748.5	29.82	757.4	65	18.3	49	S	1	0.4	.....	0	0	.....	.....	0	0	C ear.....	
Rio Grande City, Texas	29.80	756.9	30.02	762.5	77	25.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0.45	11.4	Cloudy.....	
Rochester, New York	29.36	745.7	29.95	760.7	69	20.6	61	NW	5	2.2	.....	5ck	0	W	.....	0	0	Fair.....	
Roseburg, Oregon	29.45	748.0	30.02	762.5	51	10.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California	29.74	755.4	29.82	757.4	58	14.4	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.38	746.2	29.92	760.0	79	26.1	78	S	8	3.6	.....	2ck	0	SW	.....	0	0	Fair	
St. Marks, Florida	30.00	762.5	30.08	764.0	75	23.9	90	NE	4	1.8	.....	2k	0	Calm	.....	0.22	5.6	Fair.....	
St. Paul, Minnesota	29.08	738.6	29.87	758.7	69	20.6	84	NW	4	1.8	.....	2k	0	W	.....	0.65	16.5	Clear.	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	74	23.3	40	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy.....	
San Antonio, Texas	29.34	745.2	29.90	759.4	77	25.0	80	Calm	0	0	.....	5ck	0	Calm	.....	0.01	0.3	Fair.....	
San Diego, California	29.80	756.9	29.88	758.9	66	18.9	95	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.29	744.0	29.93	760.2	72	22.2	85	SW	4	1.8	.....	.....	10s	.....	SW	0.38	9.7	Cloudy.....	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	75	23.9	86	W	8	3.6	.....	8ck	0	W	.....	0.05	1.3	Fair..	
San Francisco, California	29.81	757.2	29.87	758.7	55	12.8	87	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	60	15.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.00	762.0	30.00	764.3	77	25.0	91	Calm	0	0	.....	0	Fog	.....	Calr	0.41	10.4	Clear.....	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	81	27.2	78	S	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.07	763.8	30.10	764.5	78	25.6	95	Calm	0	0	.....	1cs	1ks	SW	S	0.15	3.8	Fair.....	
Socorro, New Mexico	25.45	646.4	29.51	749.5	68	20.0	60	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.....	
Springfield, Ill	29.33	745.0	29.98	761.5	75	23.9	81	N	12	5.4	.....	2ck	8s	NW	N	Inap	Inap.	Cloudy	
Springfield, Massachusetts	29.82	757 4	29.94	760.5	70	21.1	90	Calm	0	0	.....	.....	Fog	.....	.....	0.05	1.3	Foggy	
Stockton, Texas	26.94	684.3	29.94	760.5	75	23.9	4	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.92	760.0	29.97	761.2	68	20.0	84	NW	9	4.0	.....	5k	0	Calm	.....	0	0	Fair	
Toledo, Ohio	29.27	743.4	29.93	760.2	70	21.1	95	W	6	2.7	.....	.....	10ks	.....	W	0.50	12.7	Cloudy.....	
Tucson, Arizona	27.46	697.5	30.02	762.5	77	25.0	72	S	4	1.8	.....	0	2s	.....	Calm	0.19	4.8	Fair.....	
Umatilla, Oregon	29.60	751.8	30.08	764.0	53.0	11.7	42	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.11	739.4	29.89	759.2	76	24.4	86	SE	1	0.4	.....	.....	10s	.....	SE	0.35	8.9	Cloudy	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	81	27.2	78	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear...	
Virginia City, Montana	24.36	618.7	29.84	757.9	57	13.9	41	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.45	748.0	29.80	756 9	68	20.0	60	Calm	0	0	.....	5ck	5s	Calm	Calm	0	0	Cloudy.....	
Washington, D. C.	29.86	758.4	29.97	761.2	80	26.7	78	SW	2	0.9	.....	5cs	0	W	.....	0	0	Fair.	
Wickenburg, Arizona	.....	.....	.....	.....	70	21.1	53	S	.....	.....	1	0	0	.....	.....	0.15	3.8	Clear.....	
Wilmington, N. Carolina	29.99	761.7	30.07	763.8	79	26.1	86	Calm	0	0	.....	2ck	0	Calm	.....	0.08	2.0	Fair.....	
Winnemucca, Nevada	26.62	650.7	29.98	761.5	59	15.0	28	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.	
Wood's Holl, Mass	29.87	758.7	29.90	759.4	74	23.3	76	N	10	4.5	.....	5ck	2s	.....	.....	Inap	Inap.	Cloudy.....	
Yankton, Dakota	28.65	727.7	29.89	759.2	65	18.3	89	E	4	1.8	.....	10c	0	W	.....	0.01	0.3	Cloudy.....	
Yuma, Arizona	29.66	753.1	29.80	756.9	84	28.9	64	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	83	28.3	79	Calm	0	0	.....	4c	0	Calm	.....	.....	.....	.....	J. B. Gordon.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	81	27.2	77	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	68.2	20.1	80	Calm	.....	.....	0	3cs	2ks	.....	.....	0	0	Hazy	James Gall.
Navassa, W. I	29.91	759.7	29.99	761.7	84	28.9	.....	NE	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	80	26.7	82	E	.....	.....	2	0	5k	.....	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	C. J. Hering.
St. Thomas, W. I	29.93	760.2	29.94	760.5	84	28.9	79	E	4	1.8	.....	5c	5k	NE	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	29.66	753.4	29.71	754.6	53.6	11.7	90	W	18	8.6	.....	8k	2s	N	N	0	0	Clear.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.1	Squally.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,490 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡			82.5	28.1	91	NW	3	1.3			2		NE	0	0			Fair	
Navy Yard, Portsmouth, N. H																					
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡			80	26.7	93	SW			3	1c	Fog		SW	0	0			Fair	
Adams. Mare I'd, Navy Yard, Cal.	29.84‡	757.9‡			59	15.0	65	SW			0		0							Clear	
Alliance, Copenhagen, Denmark	29.97‡	761.2‡			61	16.1	88	SSE			1		10		SE					Raining	
Ashuelot, Yokohama, Japan	29.87‡	758.7‡			82	27.8	79	SSW			3		5		W			Smooth		Fair	
Colorado, New York, N. Y.	29.91‡	759.7‡			78	26.1	74	NE	2	0.9			5			0	0			Misty	
Constitution. Navy Yard, Brooklyn, N.Y.	29.93‡	760.2‡			78	25.6	73	NW			1		10		NW					Overcast	
Enterprise, N. 54° 54,′ E 14° 50′	30.04‡	763.0‡			65	18.3	89	SE			2		8		SSE			Mod'ate		Cloudy	
Essex, S 33° 56′, W. 50° 46′	29.76‡	755.9‡			59	15.0	100	NNW			5		10		NNW			Mod'ate	NW	Cloudy	
Franklin. Norfolk, Va.	30.05‡	763.3‡			77	25.0	82	SW	6	2.7			5			0	0			Fair	
Hartford Rio de Janeiro, Brazil	30.11‡	764.8‡			73	22.8	76	N	1	0.4			2			0	0			Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.88‡	758.9‡			59	15.0	82	SSW	7.2	3.2			3		SSW	0	0			Clear	
Kearsarge, Charlottetown, Prince Edward Island	29.85‡	758.2‡			69	20.6	65	SE			1		2		SE					Fair	
Michigan. Chicago, Ill.	29.88‡	758.9‡			71	21.7	87	SSE			2		10							Rainy	
Monocacy. Shanghai, China	29.71‡	754.6‡			79	26.1	91	ESE			2		10		ESE					Cloudy	
Monongahela, Yokohama, Japan	29.86‡	758.4‡			81	27.2	96	S			2-3		k			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.06‡	763.5‡			81	27.2	87	NE	3	1.3			2		NE	0	0			Fair	
Onward, Callao, Peru	30.03‡	762.7‡			62	16.7	88	S			1		10					Long	W	Cloudy	
Palos, Shanghai, China	29.74‡	755.4‡			77	25.0	95	SE			4		10		S					Overcast	
Passaic, Washington, D. C.					79	26.1	95	SW			1		5		NE					Fair	
Pensacola, Callao, Peru	30.03‡	762.7‡			62	16.7	88	S	3	1.3			10					Smooth		Overcast	
Portsmouth. Portsmouth, N. H	29.93‡	760.2‡			70	21.1	61	Calm			0		2		Calm	0	0	Smooth		Clear	
Powhatan, N. 31° 49′, W 80° 20′	30.06‡	764.0‡			81	27.2	83	SSW			1		5		SW	0	0	Long heavy	SE	Fair	
Quinnebaug, N. 36° 57′, E. 23° 27′	29.96‡	761.0‡			84	28.9	50	NNE			4		0					Mod'ate	N	Hazy	
Ranger, Nagasaki, Japan	30.05‡	763.3‡			86	30.0	92	Calm			0		8		Calm			Smooth		Cloudy	
Richmond, Yokohama, Japan	29.86‡	758.4‡			82	27.8	87	S			3		5			0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.97‡	761.2‡			78	25.6	100	Calm			0		10		Calm	0	0			Cloudy	
Santee, Annapolis, Md.	29.97‡	761.2‡			80	26.7	82	SW			1		8		NW	0	0			Clear	
Saratoga, New London, Conn.	29.96‡	761.0‡			74	23.3	90	N			0-1		8		Calm	0	0			Squally	
St. Louis, League Island, Pa	29.95‡	760.7‡			79	26.1	100	Calm	0	0			2		SW	0	0			Fair	
Trenton, N. 54° 19′, E. 2° 45′	29.94‡	760.5‡			66	18.9	84	SW			3-4		2		S;W	0	0	Smooth		Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.88‡	758.9‡			67	13.9	94	SW			4		10		Calm	0	0	Smooth		Misty	
Vandalia, N. 32° 19′, W. 80° 10′	30.11‡	764.8‡			82	27.8	79	SSE			1		5		S	0	0	Long	SE	Fair	
Wabash. Boston, Mass	29.91‡	759.7‡			73	22.8	76	NW	5	2.2			5			0	0			Fair	
Wachusett, N. 28° 16′, W. 88° 52′	30.06‡	763.5‡			55	29.4	83	ESE			0-1		2		Calm			Smooth	SE	Fair	
Wyoming, N. 39° 50′, E. 26° 07′	29.94‡	760.5‡			78	25.6	46	NNE			5-6		2		NE			Mod'ate	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; **the distinction** between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not **give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead **of 7:35 A. M.,** Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.
Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebur.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Connon.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 33° 51′, E. 151° 29′		30.00‡	762 0‡				SE			5				SE		Mod'ate	SW		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.
Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokahama, Japan	†	29.85‡	758.2‡	80	26.7	90	S			2		4lt			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 26° 28′, E. 128° 09′		29.83‡	757.7‡	80	26.7	87	SSE			4		5		SE		2	SSE	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.
Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeifer, N. 47° 49′, W. 20° 39′		29.99‡	761.7‡	61.5	16.4	100	W			4		10		W	5 h'rs	Smooth	W	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		30.00‡	762.0‡				W			2		5†		W				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 37′, W. 64° 46′		29.96‡	761.5‡	76	24.4	95	W			1		2		W	0	Light	S	Clear	Captain R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 48° 14′, W. 8° 00′		0.12‡	765.0‡	61	16.1	88	SSW			3		8				2	NNW	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

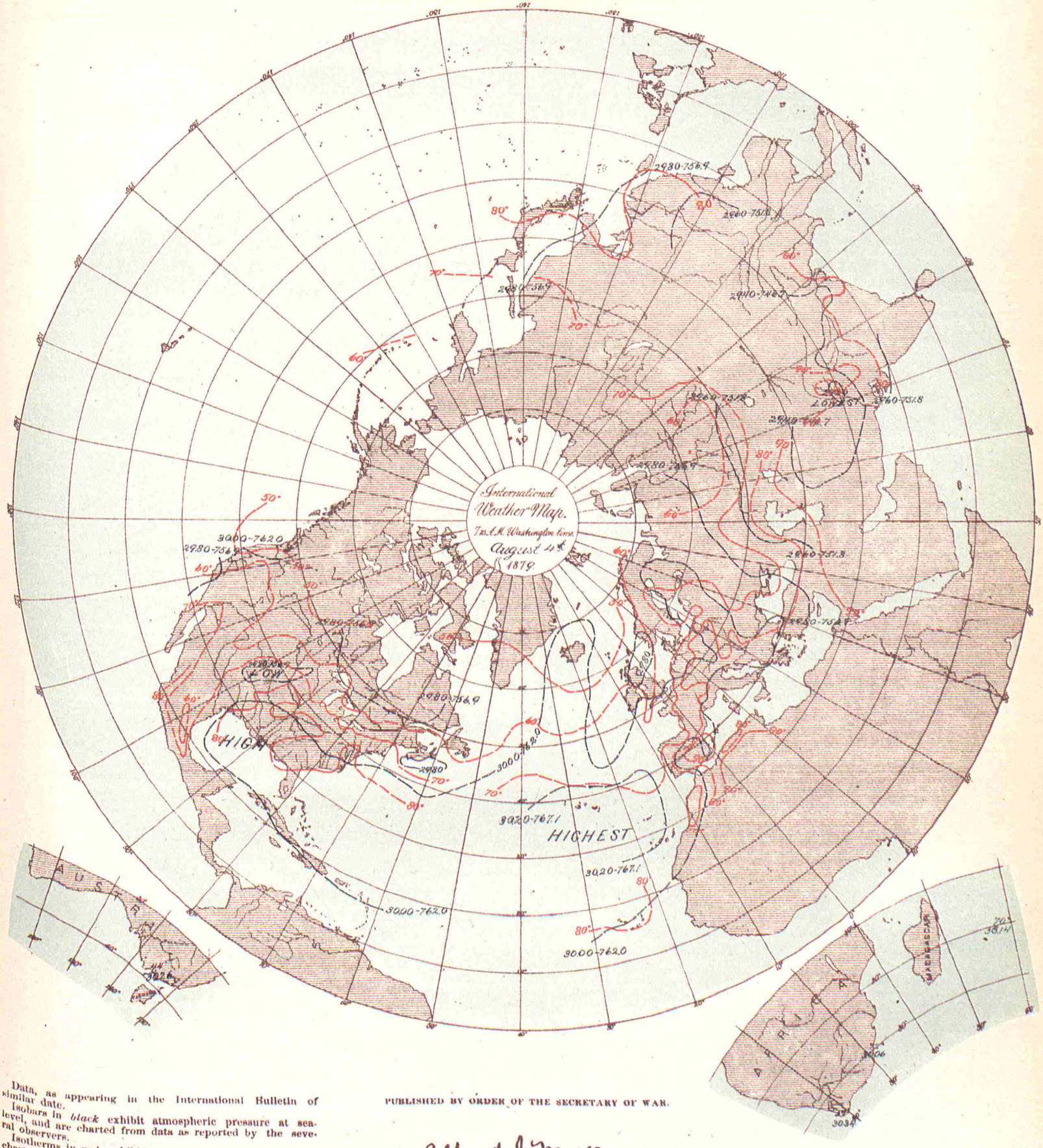
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 128 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 5, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.05	763.2	67.6	19.8	84	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.97	761.2	82.8	28.2	77	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.93	760.1	81.0	27.2	63	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourilière.
La Calle	.....	.....	29.95	760.8	85.3	29.6	75	NNE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.1	91.4	33.0	14	N	.....	.....	3	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.05	763.2	67.8	31.0	36	E	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	77.0	25.0	47	S	.....	.....	0	.....	5	.....	.....	Inap.	Inap.	Cloudy	Brugnlaux.
Laghouat	.....	.....	29.99	761.8	93.0	34.4	26	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.99	761.7	100.8	38.2	13	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.43	747.6	29.95	760.8	81.5	27.5	34	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.28	743.7	30.01	762.3	81.0	27.2	51	ENE	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.13	739.8	29.96	761.0	79.2	26.2	45	N	.....	.....	1	.....	1cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.76	730.6	29.95	760.6	81.1	27.3	57	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.59	726.1	29.93	760.2	83.1	28.4	42	NE	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.62	727.0	29.88	759.0	82.8	28.2	80	NE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.05	737.8	29.90	761.8	75.4	24.1	67	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.86	758.4	29.93	760.1	90.1	32.3	30	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.53	750.1	29.98	761.5	83.6	28.6	42	SE	.....	.....	3	.....	5	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.71	754.5	29.97	761.2	82.0	27.8	46	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.87	758.7	29.97	761.3	88.5	31.6	54	W	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.28	743.7	30.01	762.2	80.8	27.1	58	ESE	.....	.....	1	.....	1	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 884 meters, or 1,200 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:6, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.65	753.1	29.74	755.4	54.0	12.2	.....	E	3	1.3	.....	.....	10	.....	.....	0.810	20.57	Misty	W. Boswell.
Ardrossan	29.72	754.9	29.74	755.4	57	13.9	.....	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Wm McNeil &G.Carrick
Armagh, Observatory	29.51	749.3	29.72	754.9	59.9	15.5	.....	NE	3	1.3	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	58.7	14.8	.....	SE	17	7.6	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	.....	.....	29.72	754.9	57.8	14 3	.....	SE	18	8.0	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.36	745.7	29.76	755.9	60.3	15.7	.....	SW	.....	.....	3	.....	10	.....	.....	0.08	2.0	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	83.5	28.6	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.76	755.9	29.86	758.4	64.0	17.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.82	757.4	67.0	19.4	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.78	756.4	29.90	759.4	64.6	18.1	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.71	754.6	29.75	755.6	55	12.8	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.88	758.9	29.90	759.4	64	17 8	.....	SW	.....	.....	2	.....	1	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.51	749.5	29.73	755.1	61.7	16.5	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.99	710.9	30.28	769.1	55.5	13.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.80	756.9	30.03	762.7	75	23.9	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.65	753.1	63	17.2	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.02	762.5	81.7	27.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.53	750.0	29.73	755.1	61.9	16.6	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean. [G.
Great Yarmouth	29.89	759.2	29.90	759.4	63	17.2	.....	S	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.72	754.9	29.89	759.2	64.9	18.3	.....	SSW	.....	.....	1	.....	9	.....	.....	.....	.....	Almost overcast	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.88	758.9	40	4,4	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.79	756.7	29.90	759.4	63	17.2	.....	SW	.....	.....	2	.....	3ck	.....	.....	0.33	8.4	Fine	M. P. Moyle.
Holyhead	29.67	753.6	29.69	754.1	61	16.1	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.64	752.8	29.92	760.0	62.9	17.2	.....	SSW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.84	757.9	29.88	758 9	65.0	18.3	.....	S	14	6.3	.....	.....	9	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.56	750.8	29.81	757.2	63.0	17.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29 86	758.4	29.94	760.5	84.4	29.1	.....	SE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.68	753.9	29.77	756.1	52	11.1	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.03	762 7	84.2	29.0	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.62	752.3	29.80	756.9	62.7	17.1	.....	SSW	.....	.....	5	.....	10kd	.....	SSW	0.146	3.69	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.28	743.7	29.80	756.9	57.0	13.9	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.85	758.2	62	16.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.68	753.9	29.75	755.6	58.3	14.6	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.60	751.8	29.80	756.9	58	14.4	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.51	749.5	29.67	753.6	58	14.4	.....	SSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.83	757.7	53	11.7	.....	E	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.89	759.2	29.95	760.7	85.0	29.4	.....	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Serg't.W. H.Lyne.
Sheffield	29.54	750.3	29.82	757.4	61.4	16.3	.....	SSW	.....	.....	2	.....	10	.....	.....	0.19	4.8	Drizzling	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	60.0	15.6	90	Calm	.....	.....	0	.....	10	.....	.....	0.623	15.83	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.76	755.9	59.0	15.0	.....	SE	13	5.8	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	61.1	16.2	.....	S	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.74	755.4	29.75	755.6	63	17.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.76	755.9	29.79	756.7	59.4	15.2	.....	WNW	19	8.5	.....	.....	7	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.06	763.5	30.10	764.5	64.3	17.9	.....	S	40.0	17.9	.....	8	9	.....	.....	0.180	4.57	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.77	756.1	59.2	15.1	.....	E	.....	.....	2	.....	10ks	W.	.....	0	0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.7	69.3	20.7	73	ESE	19.0	8.5	.....	1	4	.....	ESE	0.02	0.5	Squally	C. Melddrum.
Melbourne, Observatory	30.34	770.6	30.43	772.9	43.4	6.3	82	SE	12	5.4	.....	.....	2	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—12.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 55'. E. 28° 45'	NNE	.....	.....	6	0	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 40° 35', W. 71° 40'	NW	.....	.....	2	8	.....	2	.....	Misty	Capt. Wm. Watson.
Atmosphere, N. 47° 45' W. 33° 15'	SSE	.....	.....	6	10	.....	5	WNW	Foggy	.....
Barque Commewyne, N. 44° 45', W. 37° 55'	SSW	.....	.....	6	10	.....	.....	.....	Overcast	Capt. A. Buchan.
Gordon Castle, N. 42° 20', W. 43° 50'	SW	.....	.....	3	4	.....	3	WSW	Misty	.....
German Brig "W. von Freeden" N. 34° 20', W. 71° 20'	NE	.....	.....	2	7	S	4	ssw;ssw	D. clouds	Capt. H. v. Freeden.
Theophane, N. 18° 15', W. 28° 30'	NNE	.....	.....	5	10	.....	.....	.....	Overcast	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	67.1	19.5	93	NE	.....	.....	1	Sck	.....	.....	.....	0.51	13.0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.97	761.1	30.01	762.3	67.6	19.8	79	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	.....	.....
Farõe	29.98	761.4	30.00	761.9	65.8	18.8	75	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.87	758.6	29.91	759.7	52.5	11.4	79	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.05	763.3	30.10	764.4	51.8	11.0	73	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.90	759.5	29.94	760.4	50.4	10.2	86	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.87	758.7	29.98	761.5	64.4	18.0	85	SW	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.43	747.4	29.98	761.4	72.3	22.4	64	SSW	.....	.....	1	.....	8kn	.....	SW	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.5	29.93	760.2	78.4	25.8	51	SSE	.....	.....	3	.....	2	.....	N	0	0	Slightly cl'dy	Honvallet, Director.
Arras, Engin'r School	29.70	754.4	29.95	760.6	75.6	24.2	47	S	.....	.....	1	.....	.....	.....	SW	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.86	758.5	29.94	760.5	91.8	33.2	39	SSW	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.41	747.0	29.94	760.5	76.1	24.5	52	SSE	.....	.....	1	.....	8n	.....	.....	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.67	753.7	29.93	760.1	75 7	24.3	55	S	.....	.....	1	.....	5	.....	SSW	0	0	Cloudy.	Frere Eugene Marie.
Besançon, Normal School	29.11	739.4	29.97	761.1	78.8	26	59	S	.....	.....	1	.....	2	S	.....	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	739.9	30.07	763.8	82.8	28.2	62	S	.....	.....	1	c	.....	SW	SW	0	0	.....	Marlot, Director.
Bourges, Normal School	29.42	747.3	29.95	760.7	76.1	24.5	67	SW	.....	.....	1	.....	kn	SW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.56	750.7	29.80	756.9	60.8	16.0	93	SW	.....	.....	3	.....	10	.....	SW	0.020	0.50	Raining	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.52	749.9	29.91	759.8	65.3	20.7	45	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.63	747.6	29.90	759.5	72.3	22.4	64	S	.....	.....	1	.....	5	.....	S	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.37	746.0	29.91	759.6	77.0	25	50	S	.....	.....	5	.....	8	.....	S	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.97	761.2	77.0	25.0	54	SW	.....	.....	1	.....	5	SW	SW	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.5	29.83	757.7	83.8	28.8	52	NE	.....	.....	1	.....	5	.....	SW	0	0	.....	Alluard, Director.
Commercy, Normal School	29.13	740.0	29.96	761.0	76.5	24.7	57	E	.....	.....	1	.....	5ck	E	E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grénasque*	28.91	734.2	30.05	763.2	90.5	32.5	32	S	.....	.....	3	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.23	742.5	29.96	761.0	80.6	27.0	71	NW	.....	.....	1	.....	2k	.....	W	0	0	Slightlycl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.81	757.2	30.02	762.6	70.2	21.2	68	SW	.....	.....	2	.....	5	.....	W	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.63	752.7	29.93	760.3	71.6	22	72	WNW	.....	.....	3	.....	5	.....	W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.08	738.7	29 96	760.9	81.1	27.3	57	SW	.....	.....	1	.....	2k	SW	SW	0	0	Partly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.86	758.4	29.96	761.0	65.8	18.8	78	SW	.....	.....	3	.....	.....	.....	SW	0	0	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.34	745.2	29.93	760.1	81.5	27.6	55	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ch. André, Director.
Macon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.68	753.8	29.94	760.4	85.5	29.7	48	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	28.94	735.0	29.93	760.2	78.3	25.7	69	SE	.....	.....	1	.....	5k	SE	SE	.....	.....	Partly cov'd	Barbier, Director
Mont-Louis	24.99	634.8	29.81	769.8	67.1	19.5	69	SW	37.4	16.7	.....	.....	.....	.....	.....	0	0	.....	M. Cave
Nice	29.97	761.1	30.00	762.0	85.3	29.6	66	SW	.....	.....	1	.....	1	W	SW	0	0	Hazy	M. Boissier, Director.
Nismes, Normal School	29.76	755.8	29.95	760.6	91.0	32.8	45	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.66	753.4	75.4	24.1	54	S	.....	.....	2	.....	6	.....	SW	0	0	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.69	576.2	.....	.....	60.6	15.9	.....	SW	.....	.....	5	.....	1	.....	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.85	758.3	29.96	760.9	77.9	25.5	64	SE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs.	25.29	642.3	.....	.....	63.0	17.2	83	W	.....	.....	1	.....	8	.....	.....	0.031	0.8	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.00	761.9	30.03	762.7	76.3	24.6	58	W	.....	.....	1	.....	2	W	W	0.04	1.	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.4	29.90	759.5	75.2	24.0	53	SSE	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.7	29.90	759.5	67.3	19.6	64	SSW	.....	.....	3	.....	5	SSW	SSW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.73	756.3	29.95	760.6	75.2	24.0	56	SSE	.....	.....	2	.....	8	.....	SW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.04	737.5	30.11	764.8	68.0	20	91	NW	.....	.....	1	.....	2	WSW	SW	0	0	Slightly cl'dy	T. Haguet, Director
Toulouse, Observatory	29.30	744.3	30.03	762.7	79.2	26.2	51	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.76	755.9	29.96	760.9	73.9	23.3	49	SSW	.....	.....	2	.....	8	.....	SW	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.46	748.3	29.95	760.8	74.8	23.8	53	SSW	.....	.....	3	.....	.....	.....	.....	0.001	0.03	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.24	742.7	29.91	759.6	86.0	30	53	SSE	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	79.5	26.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	22.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.70	754.4	29.72	755.0	81.1	27.3	82	SSE	17.0	7 6	.....	.....	6ks	.....	.....	0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grénasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Greasque, 322 m., or 1,056 ft.. Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,436 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.17	741.0	30.02	762.4	76.1	24.5	66	SE			4		1	S		0.079	2.0		Prof. Dr. Hoh.
Berlin	29.89	759.1	30.05	763.3	77.0	25.0	54	NW			1		8			0.035	0.9		Prof. Dr. Arndt.
Breslau	29.50	749.2	30.03	762.7	82.6	28.1	56	WNW			2		3			0	0		Royal University Ob's'y.
Carlsruhe	29.51	749.5	29.91	759.8	80.2	26.8	65	NE			2		1	S		0	0		Albert Senz.
Cassel	29.37	746.0	29.98	761.4	82.9	28.3	47	SE			2		5	SW		0	C		Dr. H. Möhl.
Crefeld	29.81	757.1	29.97	761.2	78.4	25.8	53	SW			3		7k			0	0		Director Lose.
Emden			29.95	760.8	72.7	22.6	68	WSW			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.62	752.3	29.98	761.4	79.0	26.1		SE			1		2			0	0		Physical Society.
Freienwalde on the Oder	29.99	761.8	30.03	762.8	79.5	26.4	61	NW			3		8ks	NW		0.047	1.2		Dr. Assmann.
Friedrichshafen	28.57	725.6	29.94	760.4	75.0	23.9	74	W			4		0			0.429	10.9		M. Wilhelm.
Hamburg	29.97	761.1	30.03	762.8	71.6	22.0	66	WSW			2		8k			0.012	0.3	Fair	Captain F. Hegemann
Kiel	29.98	761.6	30.00	762.0	70.5	21.4	69	NW			3		6			0.026	0.62		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.89	759 1	29.97	761.1	83.5	28.6	46	W			3		2			0.004	0.1		Prof. E. Luther.
Köslin			29.97	761.2	72.3	22.4		W			2		2			0	0		H. Müller.
Leipsic Observatory	29.62	752.4	30.02	762.6	80.8	27.1	56	NNW			1		10			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.94	760.4	25.98	761.6	73.4	23.0	71	SW			2		7s						Skalweit.
Munich (München)	28.22	716.7	30.08	764.1	76.5	24.7	62	NE			2		3			0.004	0.1		Dr. C. Lang.
Neufahrwasser	30.00	762.1	30.02	762.5	72.9	22.7	72	NW			2		10			0	0		A. Lothes.
Posen	29.70	754.3	29.97	761.3	78.4	25.8	61	NW			5		3			1.193	30.3	Thunder-storm	Dr. Magener.
Strassburg (in Alsace)	29.43	747.4	29.95	760.7	78.8	26 0	59	NE			1		0			0	0		Imp. University Observatory.
Stuttgart	29.01	736.9	29.89	759.2	84.2	29.0	44	S			1		3	W		0.094	2.4		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.53	724 6	29.97	761.1	74.5	23.6	57	E	4	2		3c				0.130	3.3		T. Hopfner.
Wustrow	30.04	762.9	30.06	763.5	65.7	18.7	80	W			1		0			0	0	Clear	E. Schnitz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:6 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.9	29.94	760.4	85.5	29.7		NE			7.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.38	746.3	29.43	747.6	83.3	28.5	71	WSW	9.0	4.0			8		WSW	0	0	D. clouds	
Deesa	29.02	737.0	29.48	748.9	82.2	27.9	74	SSW	15.4	6.9			9		W	0.01	0.3	D clouds	
Bombay	29.57	751.1	29.61	752.0	77.3	25.2	97	W	15.0	6.7			10	WSW	W	1.69	42.9	Overcast	
Poona	27.78	705.6	29.64	753.0	72.5	22.5	86	WSW	11.0	4.9			10	Calm	WSW	0.36	9.1	Drizzling	
Lahore	28.63	727.2	29.34	745.3	93.9	34.4	53	SE	6.4	2.9			6		S	0.50	12.7	Misty	
Belgaum	27.16	690.0	29.73	755.1	68.1	20.1	96	SW	14.0	6.3			10		W	0.74	18.8	Drizzling	
Roorkee	28.55	725.2	29.43	747.5	83.5	28.8	79	W	3.3	1.5			8			0.04	1.0	D. clouds	
Agra	28.84	732.5	29.39	746.6	81.7	27.6	87	E					8		E	0	0		
Nagpur	28.48	723.3	29.52	749.7	75.9	24.4	95	W	7.1	3.2			10		SE	1.40	35.6	Overcast	
Lucknow	29.00	736.5	29.37	745.9	84.3	29.1	87	E	2.4	1.1			10			0.77	19.6	Overcast	
Allahabad	29.06	738.1	29.37	745.9	81.8	27.7	93	ENE	4.2	1.9			10		E	0.15	3.8	Overcast	
Patna	29.20	741.7	29.38	746.2	83.1	28.4	83	E	4.4	2.0			6	E	E	0.30	7.6	Overcast	
Hazaribagh	27.37	695.2	29.36	745.7	76.0	24.4	93	ESE	7.8	3.5			10		E	1.67	42.4	Raining	
Cuttack	29.37	746.0	29.45	748.0	80.2	26.8	87	SSW	4.0	1.8			10			0.32	8.1	Drizzling	
Calcutta (Alipore)	29.40	746.8	29.42	747.4	79.6	26.4	93	S	7.0	3.1			10	SSW	SSW	0	0	Overcast	
Goalpara	29.11	739.4	29.49	749.1	82.8	28.2	83	SSE	8.2	3.7			9			0.09	2.3	D. clouds	
Chittagong	29.46	748.4	29.55	750.7	77.7	25.4	95	SSE	9.0	4.0			10			0.04	1.0	Gloomy	
Sibsagar	29.19	741.5	29.52	749.8	67.9	31.1	74	E	2.6	1.2			10	W	W	0	0	D. clouds	
Jubbulpore	28.08	713.1	29.43	747.5	76.5	24.7	88	NW	15.0	6.7			10		NW	1.74	44.2	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.58	751.4	29.97	761.3	88.5	31.4	37	NW	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.47	748.6	30.00	761.9	85 1	29.5	48	WSW	.....	.....	4	.....	2	.....	.....	0.043	1.1	.....	Prof. Schiaparelli.
Padua	29.86	758.5	29.97	761.2	87.6	30.9	39	SE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.16	739.0	29.96	761.0	82.4	28.0	57	ESE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.80	756 9	29.98	761.6	86.9	30.5	34	NW	3.6	1.7	.....	.....	0.	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.11	713.9	29.93	760.2	83.8	28.8	44	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.93	760.2	29.98	761.4	80.6	27.0	64	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.2	29.94	760.4	95.6	35.0	31	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.6	29.95	760.7	85.8	29.6	65	W	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.77	756.2	29.94	760.5	91.0	32.8	30	SW	9 4	4 2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.72	755.0	29.97	761.2	84.2	29.0	46	ESE	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.1	29.94	760.5	88.5	31.4	61	SE	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.3	29.92	760.0	85.6	29.8	48	S	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.72	754.8	29 96	761.0	82.2	27.9	63	E	4.3	1 9	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.95	760.7	86.7	30.4	59	ESE	6.3	2.8	.....	.....	4	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.6	29.99	761.7	88.2	31.2	41	WSW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 478.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758 4	29.87	758.7	80.9	27.2	79	NNE	3.0	1.3	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.92	754.9	79.1	25.6	87	W	0 1	0.04	.....	.....	2s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.75	755.6	29.81	757.2	80.4	26.9	91	SSW	1.5	0.8	.....	10ck	s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.78	756.4	29.83	757.7	81.7	27.6	78	WSW	0.6	0.3	.....	.....	1ck	.....	NW	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.5	30.04	762.9	60.8	16.0	72	SE	.....	.....	3	.....	8	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.45	621 0	30.06	763.6	64.9	18.3	83	S	.....	.....	1	2c	1k	E	.....	0.20	5.0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	24.11	586.9	30.05	763.2	58.6	14.8	83	NW	3.4	1.5	.....	9k	0	S	.....	0.004	0.1	Light rain	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.6	17.0	83	Calm	.....	.....	0	2c	1s	SE	SE	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.95	760.8	29.97	761.1	78.8	25.7	91	Calm	.....	.....	0	3	2	N	NE	Inap.	Inap.	½ clouded	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.3	30.17	766.4	63.0	17.2	54	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.58	573.4	30.13	765.2	57.9	14.4	81	E	.....	.....	1	0k	0	SE	.....	0.12	3.0	½ clouded	A. Nuñez.
Puebla (Catholic Institute)	23.47	596.2	30.23	767.8	55.2	12.9	80	NE	2.4	1.1	.....	.....	4ck	.....	SE	0.19	4.9	Fair	Prof. F. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.57	751.0	29.85	758.3	75.7	24.3	82	NE	.....	.....	2	.....	9k	.....	SE	1.30	33.0	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.6 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.2	29.97	761.2	72.1	22.3	.....	WSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Groningen	29.93	760.2	29.98	761.6	70.3	21.3	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	29.95	760.8	29.95	760.8	65.3	18.5	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.96	761.0	29.96	761.0	73 8	23.3	60	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.94	760.3	29.98	761.5	72.5	22.5	66	SSW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.7	29.89	759.1	57.2	14.0	87	SSW	11.4	5.1	.....	.....	10	.....	.....	0.071	1.8	.....	
Brönö	29.63	752.6	29.67	753.6	52.9	11.6	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	
Christiania	29.66	753.4	29.80	757.0	72.3	22.4	64	SSW	11	5	.....	.....	2	.....	.....	0.165	4.2	.....	
Tromsö	29.59	751.6	29.63	752.7	58.6	14.8	66	NE	9	4	.....	.....	10	.....	.....	0.209	5.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.13	765.4	30.32	770.1	75.9	24.4	76	W	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.96	761.0	68.2	31.2	21	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.09	764.3	30.18	766.5	72.9	22.7	61	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.6	30.06	763.5	71.7	23.7	49	N	32.2	14.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.27	768.9	30.36	771.1	83.4	28.6	56	S	0	0	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—.	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	W	1	W	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	NE	2	.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, N. 12° 51', W. 23° 29'	.....	SW	2	SW	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	SW	2	SW	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.7	29.99	761.8	81.9	27.7	44	SSW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.61	752.0	30.00	762.1	76.6	24.8	46	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.75	755.7	29.99	761.7	71.2	21.8	68	W	4	2	.....	.....	8ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.90	759.4	29.91	759.8	69.3	20.7	64	WNW	11	5	.....	.....	9k;ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.32	744.8	29.93	760.3	71.6	22.0	59	NW	9	4	.....	.....	8k;cks;	ckn].	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.8	29.91	759.6	77.2	25.1	74	N	9	4	.....	.....	4ks	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.78	756.5	29.89	759.0	67.1	19.5	80	NW	9	4	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.29	743.9	29.81	757.2	68.9	20.5	43	N	7.8	3.5	.....	.....	2ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.7	29.63	752.5	61.9	16.6	90	N	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.86	758.5	29.88	759.0	58.1	14.5	75	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.30	718.9	29.64	752.9	77.5	25.3	35	NW	31	14	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.61	752.1	29.53	750.0	76.8	24.9	26	WNW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.10	739.1	29.54	750.4	73.0	22.8	33	N	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.28	743.7	29.54	750.2	69.6	20.9	52	NNE	2	1	.....	.....	9n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.68	728.5	29.63	752.6	50.0	10.0	96	E	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nukuss	29.17	741.0	29.39	746.4	89.8	32.1	49	NNW	7	3	.....	.....	2s	.....	.....	.....	.....	.....	
Tashkend	27.98	710.7	29.42	747.2	90.7	32.6	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.17	741.0	29.65	753.2	62.1	16.7	69	SE	4	2	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.48	748.7	29.76	755.8	61.0	16.1	80	N	4	2	.....	.....	2	.....	.....	.....	.....	Thunder-storm	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.59	751.5	29.73	755.1	82.2	27.9	80	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.59	751.5	29.69	754.0	76.6	24.8	83	SW	22	10	.....	.....	8cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.5	29.97	761.1	84.7	29.3	54	SE	4.2	1.89	.....	.....	0	.....	.....	0	0	Misty	Antonio Rave, Director
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	77.2	25.1	63	NW	0.8	0.38	.....	8	8	W	.....	0.035	0.9	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.91	683.6	.....	.....	77.7	25.4	45	NE	6.8	3.04	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.78	705.6	29.83	757.6	95.9	35.5	19	W	12.0	5.34	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	761.0	91.4	33.0	41	ENE	5.0	2.22	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.4	30.01	762.3	76.1	24.6	61	SW	0	0	.....	0	8	.....	.....	0	0	Very cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.99	761.6	30.05	763.3	80.7	27.1	82	NE	1.6	0.7	.....	c	k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.5	29.84	757.9	83.7	28.7	68	E	1.1	0.5	.....	8s	.....	E	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	759.9	30.02	762.4	78.3	25.7	73	W	8.6	3.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.3	30.02	762.6	83.1	28.4	76	SE	.....	.....	.....	5ck	4k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,160.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.81	757.1	29.85	758.1	67.8	19.9	.....	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.70	754.4	29.75	755.7	65.8	18.8	88	SW	.....	.....	6	.....	10	.....	.....	0.173	4.4	.....	
Hernosand	2 .64	752.8	29.69	754.1	74.1	23.4	69	S	.....	.....	6	.....	1	.....	.....	0.079	2.0	.....	
Stockholm	29.69	754.2	29.87	758.7	71.6	22.0	68	WSW	.....	.....	4	.....	4	.....	.....	0	0	.....	
Wisby	29.77	756.2	29.83	757.7	68.0	20.0	83	NW	.....	.....	4	.....	5	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	29.75	755.6	29.84	757.8	70.5	21.4	62	SW	12.3	5.5	.....	.....	5	.....	WSW	0.001	0.03	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 55° 27', E 14° 32'	30.07	763.7	30.08	764.0	62.8	17.1	.....	WSW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds..	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.9	29.93	760.3	79.7	26.5	60	N	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.39	721.1	29.95	760.6	79.3	26.3	66	W	.....	.....	2	.....	0	.....	.....	0.087	2.2	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.9 mm.; Thermometer, +4.1 Cent.; Relative Humidity, +7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	761.9	77.0	25.0	47	N	18	8.0	.....	.....	3	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.8	83.8	28.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.58	751 3	29.69	754.2	85.1	29.5	66	NW	.....	.....	1	.....	1k	.....	SE	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.76	755 9	29 81	757.2	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0.08	2.0	Clear	G. A. Bain.
Charlottetown, P. E. Island	29.80	756 9	29.84	757.9	69	20.6	74	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E
Cornwall, Ontario	29.64	752.8	29.83	757.7	63.1	17.3	86	W	.....	.....	1	0	0	.....	.....	0.023	0.59	Clear	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	.....	.....	.....	.....	.....	W	.....	.....	1	0	0	.....	.....	0.10	2.5	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.77	756.1	29.79	756.7	58	14.4	76	SW	9	4.0	.....	5k	Haze	W	Calm	Inap.	Inap.	Fair	J. McWilliams.
Fredericton, N. B	29.79	756.7	29.85	758.2	68.0	20.0	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.05	737.9	29.85	758.2	56	13.3	87	W	5	2.2	.....	0	0	.....	.....	0	0,	Clear	James Stewart.
Granton, Ontario	28.80	731.5	29.84	757.9	71	21.7	90	Calm	.....	.....	0	1c	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	29.76	755.9	29.89	759.2	61	16.1	96	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	F. Allison, M. A.
Hamilton, Ontario	29.51	749.5	29.85	758.2	72.2	22.3	86	NW	.....	.....	2	4cs	0	NW	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.85	758.2	70	21.1	75	S	2	0.9	.....	2c	Sm'e	Calm	S	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.81	757.2	29.85	758.2	67.7	19.8	80	SW	5	2.2	.....	4k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.64	752.8	29.83	757.7	67	19.4	63	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.14	740.1	29.80	756 9	70	21.1	52	SW	6	2.7	.....	2ck	2ks	W	W	0.04	1.0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.85	758.2	65.7	18.7	81	SW	.....	.....	1	3k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.20	741.7	29.86	758.4	71	21.7	95	W	4	1.8	.....	5c	0	W	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.80	756.9	29.85	758.2	65 6	18.7	.....	SE	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.25	742.9	29.87	758.7	72	22.2	87	SW	4	1.8	.....	2ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.53	750.0	29.84	757.9	62	16.7	91	NE	.....	.....	1	0	2s	.....	NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.38	746.2	29.82	757.4	61	16.1	85	E	2	0.9	.....	5ck	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.80	756.9	29.85	758.2	65	18.3	81	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.70	754.4	29.86	758.4	63	17.2	72	S	6	2.7	.....	0	4k	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.13	739.9	29.81	757.2	72	22.2	84	SW	8	3.6	.....	8k	0	SW	.....	0	0	Cloudy	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.88	758.9	67	19.4	76	S	4	1.8	.....	8k	0	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.86	753.4	68	20.0	86	S	4	1.8	.....	2ck	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.81	757.2	29.83	757.7	71.0	21.7	90	NW	1	0.4	.....	5k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.69	754.1	29.93	760.2	62.0	16.7	61	E	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.68	753.9	29.90	759.4	70	21.1	85	S	1	0.4	.....	Haze	5s	.....	S	0	0	Fair	
Alpena, Michigan	29.20	741.7	29.82	757.4	68	20.0	79	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	55	12.8	100	SW	37	16.5	.....	.....	10n	.....	SW	0.98	24.9	Cloudy	
Atlanta, Georgia	28.89	733.8	29.98	761.5	79	26.1	78	SW	6	2.7	.....	8c	0	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	29.92	760.0	29.93	760 2	74	23.3	85	SW	4	1.8	.....	8k	0	NW	.....	0.20	5.1	Fair	
Augusta, Georgia	29.86	758.4	30.05	763.3	79	26.1	78	SW	1	0.4	.....	0	Haze	.....	Calm	Inap	Inap.	Clear	
Baltimore, Maryland	29.90	759.4	29.95	760.7	77	25.0	77	NW	4	1.8	.....	2c	Sm'e	NW	Calm	0.26	6.6	Fair	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	73	22.8	90	N	6	2.7	.....	5k	5s	NW	W	1.18	30.0	Cloudy	
Bismarck, Dakota	28.11	714.0	29.96	761 0	61	16.1	71	NE	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Boerne, Texas	28.56	725.4	29.82	757.4	76	24.4	91	SW	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.04	686.8	30.00	762 0	62	16.7	61	E	3	1.3	.....	2k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.72	754.9	29.87	758.7	75	23.9	72	W	7	3.1	.....	1ck	0	SW	.....	0 01	0.3	Clear	
Brackettville, Texas	28.85	732.8	29.84	757.9	76	24.4	91	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.92	734.6	29.90	759.4	57	13.9	87	NE	6	2.7	.....	1cs	0	SW	.....	0	0	Clear	
Brownsville, Texas	29.89	759.2	29.94	760.5	83	28.3	83	SE	2	0.9	.....	8cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.18	741.1	29.84	757.9	74	23.3	86	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	55	29.4	67	Calm	.....	.....	0	2c	0	SE	.....	0	0	Clear	
Burlington, Vermont	29.59	751.6	29 86	758.4	69	20.6	70	Calm	0	0	.....	2ck	Sm'e	W	.....	Inap.	Inap.	Smoky	
Cairo, Illinois	29.60	751.8	29.96	761.0	84	28.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	81	27.2	83	SW	14	6.3	.....	2k	0	NW	.....	0	0	Clear	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	80	26.7	74	SW	8	3.6	.....	0	1ks	.....	SW	0	0	Clear	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	82	27.8	79	W	13	5.8	.....	Haze	0	Calm	.....	0	0	Clear	
Cape May, New Jersey	29.91	759.7	29.94	760.5	74	23.3	90	SW	4	1.8	.....	2ck	0	W	.....	1.82	46.2	Clear	
Castroville, Texas	29.22	742.2	29.89	759.2	78	25.6	82	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Charleston, South Carolina	29.99	761.7	30.04	763 0	81	27.2	78	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Charlotte, North Carolina	29.16	740.7	29.93	760.2	80	26.7	78	SW	4	1.8	.....	2c	Haze	Calm	Calm	0.01	0.3	Fair	
Chattanooga, Tennessee	29.23	742.4	29.99	761.7	75	23.9	86	SW	1	0.4	.....	2cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	63	17.2	38	NW	8	3.6	.....	0	0	.....	.....	0.30	7.6	Clear	
Chicago, Illinois	29.22	742.2	29.88	758.9	75	23.9	72	SW	2	0.9	.....	5ck	0	W	.....	0.01	0.3	Fair	
Cincinnati, Ohio	29.30	744.2	29.91	759.7	79	26.1	76	SE	2	0.9	.....	.....	10ks	.....	W	0.06	1.5	Threatening	
Cleveland, Ohio	29.20	741.7	29.89	759.2	70	21.1	85	S	3	1.3	.....	5cs	Fog	W	Calm	0.06	1.5	Fair	
Coleman City, Texas	28.19	716.0	29.77	756 1	76	24.4	77	S	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.11	739.4	29.87	758.7	76	24.4	77	NE	5	2.2	.....	5cs	Sm'e	Calm	Calm	Inap.	Inap.	Fair	
Concho, Texas	28.08	713.2	29.64	752.8	78	25.6	57	S	2	0.9	.....	0	0	.....	.....	0.07	1.8	Clear	
Corsicana, Texas	29.54	750.3	29.99	761.7	79	26.1	78	S	2	0.9	.....	1cs	1s	Calm	Calm	0	0	Clear	
Davenport, Iowa	29.3	744 2	29.91	759.7	73	22.8	85	NE	5	2.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Deadwood, Dakota	25.40	645.2	.....	.....	57	13.9	75	Calm	0	0	.....	10c	0	Calm	.....	0	0	Cloudy	
Decatur, Texas	28.85	732.8	29.95	760.7	83	28.3	75	SW	13	5.8	.....	2c	0	Calm	.....	0	0	Fair	
Denison, Texas	29 20	741.7	29.94	760.5	80	26.7	74	SW	8	3.6	.....	2c	0	SW	.....	0	0	Fair	
Denver, Colorado	24.8	630.4	30.0	763.0	59	15.0	88	NE	4	1.8	.....	2ck	0	W	.....	Inap.	Inap.	Fair	
Des Moines, Iowa	29.05	737.9	29.89	759.2	70	21.1	90	E	2	0.9	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Detroit, Michigan	29.21	741.9	29 84	757.9	71	21.7	80	W	3	1.3	.....	2c	Haze	Calm	Calm	0	0	Clear	
Dodge City, Kansas	27.37	695.2	29.55	750.6	69	20 6	90	NE	4	1.8	.....	2c	0	E	.....	0	0	Fair	
Dubuque, Iowa	29.27	743.4	29.93	760.2	70	21.1	75	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.19	741.4	29.84	757.9	69	20.6	52	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.17	740.9	29.87	758.7	78	25.6	86	SE	6	2.7	.....	...	10s	.....	SE	0.15	3.8	Cloudy	
Eastport, Maine	29.79	756.7	29.85	758.2	67	19.4	69	SW	3	1.3	.....	8c	0	W	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	78	25.6	91	Calm	.....	.....	0	0	2s	.....	Calm	0	0	Fair	
El Paso, Texas	26.23	666.2	.....	.....	66	18.9	84	N	1	0.4	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
Erie, Pennsylvania	29.18	741.1	29.85	758.2	75	23.9	86	SW	4	1.8	.....	2k	0	W	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.22	742.2	29.85	758 2	64	17.8	73	NW	5	2.2	.....	0	0	.....	.....	0.46	11.7	Clear	
Florence, Arizona	26.34	719.8	29.94	760.5	82	27.8	52	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.94	709 7	29.72	754.9	60	15.6	81	SE	6	2.7	.....	1cs	0	SW	.....	0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768 1	70	21.1	53	Calm	0	0	.....	0	0	.....	.....	0.08	2.0	Clear	
Fort Gibson, Indian Ter	29.41	747.0	29 91	759.7	87	30.6	62	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	71	21.7	71	NW	4	1.8	.....	8k	0	Calm	.....	0.03	0.8	Cloudy	
Fort Griffin, Texas	28.64	727.4	29.85	758 2	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.31	693.7	.....	.....	63	17.2	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.76	705.1	29.57	751.1	74	23.3	51	S	8	3.6	.....	5c	2s	Calm	S	0.05	1.3	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.74	730.0	29.79	756.7	76	24.4	60	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.06	712.7	.....	.....	62	16.7	77	E	3	1.3	.....	1ck	0	Calm	.....	0.02	0.5	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.26	717.8	29.75	755.6	77	25.0	82	S	4	1.8	.....	0	8ks	.....	Calm	1.00	25.4	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	83	28.3	79	SW	2	0.9	.....	Haze	2ks	Calm	SW	0	0	Clear	
Graham, Texas	28.90	734.0	29.90	759.4	78	25.6	73	S	2	0.9	.....	2ck	0	S	.....	0	0	Fair	
Grand Haven, Michigan	29.25	742 9	29.89	758.4	74	23.3	72	NW	2	0.9	.....	.....	10c	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.00	736.6	29.90	759.4	77	25.0	73	S	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.14	740.1	29.88	758.9	75	23.9	86	E	6	2.7	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Indianola, Texas	29.98	761.5	30.01	762.2	82	27.8	83	S	4	1.8	.....	1c	0	Calm	.....	Inap.	Inap	Clear	
Jacksboro, Texas	28.84	733.0	29.93	760.2	84	28 9	61	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.07	763.8	81	27.2	78	E	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.28	743.7	29.86	758.4	73	22.8	95	E	12	5.4	.....	.....	10n	.....	E	1.63	41.4	Light rain	
Key West, Florida	30.02	762.5	30.05	763.3	83	28.3	79	NE	2	0.9	.....	2k	0	N	.....	0.09	2.3	Fair	
Kittyhawk, North Carolina	29 90	759.4	29.92	760.0	79	26 1	82	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.05	737.9	30.01	762.2	74	23.3	93	W	2	0.9	.....	8cs	2s	NE	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.23	742.4	29.94	760.5	65	18.3	84	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	63	17.2	94	Calm	0	0	.....	0	0	.....	.....	0.12	3.0	Clear	
Laredo, Texas	29.55	750.6	29.88	758 9	78	25.6	61	SE	4	1.8	.....	0	0	.....	.....	0.10	2.5	Clear	
Leavenworth, Kansas	29.07	738.4	29.87	758.7	74	23.3	86	N	9	4.0	.....	.....	10s	.....	.....	0.09	2.3	Cloudy	
Little Rock, Arkansas	29.64	752 8	29.98	761.5	79	26.1	82	Calm	0	0	.....	5c	0	Calm	.....	0.02	0.5	Fair	
Los Angeles, California	29.60	749.3	29.84	757.7	62.0	16.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.38	746 2	29.90	759.4	82	27.8	67	S	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.29	744.0	29 93	760.2	83	28.3	71	SW	1	0.4	.....	2cs	0	NE	.....	0	0	Fair	
Madison, Wisconsin	28.94	735.1	29.88	758 9	69	20.6	75	NW	3	1.3	.....	5c	5s	W	W	0	0	Cloudy	
Marquette, Michigan	29.13	739 9	29.80	756.9	68	20.0	51	W	12	5.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Mason, Texas	28.58	720.8	30.05	763.3	76	24.4	77	S	1	0.4	.....	8cs	1s	Calm	S	0.02	0.5	Fair	
Memphis, Tennessee	29.05	753.1	29.94	761.5	79	26.1	91	SE	6	2.7	.....	10ck	Haze	SE	Calm	0.02	0.5	Cloudy	
Milwaukee, Wisconsin	29.18	741.1	29.88	758.9	68	20.0	79	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Mobile, Alabama	30.01	762.2	30.05	763.3	77	25.0	91	NW	1	0.4	.....	1cs	0	Calm	.....	Inap.	Inap.	Clear	
Montgomery, Alabama	29.84	757.9	30.06	763.5	75	23.9	95	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.97	735.8	29.90	759.4	73	22.8	90	Calm	0	0	.....	.....	Fog	.....	Calm	2.00	50.8	Foggy	
Mt. Washington, N. H.	23.84	605.5	30.20	767.1	47	8.3	55	NW	13	5.8	.....	2k	2s; sm'o	NW	Calm	0.10	2.5	Clear	
Nashville, Tennessee	29.46	748.3	29.96	761.0	82	27.8	75	SE	1	0.4	.....	9cs	Haze	Calm	Calm	0	0	Cloudy	
New Haven, Connecticut	29.79	756.7	29.90	759.4	74	23.3	79	W	2	0.9	.....	0	Haze	.....	Calm	0.40	10.2	Clear	
New London, Connecticut	29.84	757.9	29.88	758.9	76	24.4	73	NW	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
New Orleans, Louisiana	29.99	761.7	30.05	763.3	81	27.2	75	E	2	0.9	.....	5cs	5s	Calm	Calm	0.03	0.8	Cloudy	
Newport, Rhode Island	29.83	757.7	29.88	758.9	74	23.3	76	SW	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
New York, New York	29.76	755.9	29.92	760.0	74	23.3	81	W	2	0.9	.....	1k	Haze	Calm	Calm	0.31	7.9	Clear	
Norfolk, Virginia	29.90	759.4	29.96	761.0	83	28.3	71	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.06	687.8	29.54	750.3	66	18.9	89	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	50.5	10.3	86	NE	2	0.9	.....	1cs	0	Calm	....	0	0	Clear	
Omaha, Nebraska	28.79	731.3	29.33	757.7	72	22.2	95	W	5	2.2	.....	.....	10n	.....	SW	0.39	9.9	Light rain ..	
Oswego, New York	29.58	751.3	29.89	759.2	67	19.4	79	S	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Pembina, Dakota	28.98	736.1	29.79	756.7	54	12.2	87	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.88	758.9	29.92	760.0	76	24.4	82	NW	10	4.5	.....	0	Fog	....	Calm	0.19	4.8	Clear	
Phœnix, Arizona	28.62	726.9	30.29	769.4	83	28.3	53	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.98	456 7	30.19	766.8	34	1.1	100	SW	20	8.9	.....	.....	Fog	.....	....	0.23	5.8	Foggy	
Pilot Point, Texas	29.05	737.9	29.84	757.9	84	28.9	83	N	12	5.4	.....	8k	2s	NW	N	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	61	16.1	55	NW	2	0.9	.....	5cs	2s	NW	Calm	0.01	0.3	Fair	
Pittsburg, Pennsylvania	29.14	740.1	29.92	760.0	71	21.7	90	NW	1	0.4	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Port Huron, Michigan	29.21	741.9	29.84	757.9	70	21.1	80	SW	7	3.1	.....	2cs	0	W	... .	0	0	Clear	
Portland, Maine	29.82	757.4	29.87	758.7	69	20.6	80	NE	3	1.3	.....	8k	0	Calm	....	0	0	Cloudy	
Portland, Oregon	29.94	760.5	30.01	762.5	55.0	12.8	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.74	628.4	30.10	764.5	61	16.1	88	W	.....	.....	1	0	0	.....	.....	0.13	3.3	Clear	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	79	26.1	87	N	6	2.7	.....	5cs	5s	Calm	Calm	0.90	22.9	Cloudy	
Red Bluff, California	29.48	748.8	29.83	757.7	66	18.9	50	Calm	0	0	.....	0	0	.....	....	0	0	Clear	
Rio Grande City, Texas	29.78	756.4	29.99	761.7	80	26.7	87	E	6	2.7	.....	0	8s	.....	Calm	0.07	1.8	Fair	
Rochester, New York	29.26	743.7	29.86	758.4	71	21.7	85	SW	5	2.2	.....	0	5ks	.....	SW	0.01	0.3	Fair	
Roseburg, Oregon	29.46	748.3	30.02	762.5	52	11.1	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.6	29.83	757.7	55	12.8	81	S	6	2.7	.....	0	0	.....	....	0	0	Clear	
St. Louis, Missouri	29.34	745.2	29.88	758.9	80	26.7	70	S	5	2.2	.....	2ck	2s	SW	Calm	0	0	Fair	
St. Marks, Florida	30.05	763.3	30.07	763.8	77	25.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.09	738.9	29.89	759.2	62	16.7	88	SW	1	0.4	.....	.....	Fog	.....	SW	0	0	Foggy	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	67	19.4	50	Calm	0	0	.....	8k	0	E	.....	0	0	Cloudy	
San Antonio, Texas	29.31	744.5	29.87	758.7	76	24.4	86	Calm	0	0	.....	5ck	0	Calm	....	Inap	Inap	Fair	
San Diego, California	29.78	756.4	29.86	758.4	63	17.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.25	742.9	29.89	759.2	73	22.8	81	SW	9	4.0	.....	0	Haze	....	Calm	0.02	0.5	Clear	
Sandy Hook, New Jersey	29.88	758.9	29.92	760.0	78	25.6	78	W	2	0.9	.....	0	Haze	.....	Calm	1.76	44.7	Clear	
San Francisco, California	29.82	757.4	29.89	759.2	55	12.8	87	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.34	592.8	29.86	758.9	59	15.0	70	Calm	0	0	.....	1ck	0	Calm	....	Inap	Inap.	Clear	
Savannah, Georgia	29.97	761.2	30.06	763.5	84	28.9	71	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	79	26.1	82	S	3	1.3	.....	0	8ks	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.02	762.5	30.06	763.5	82	27.8	83	SW	8	3.6	.....	0	5ks	.....	SW	0	0	Fair	
Socorro, New Mexico	25.41	645.4	29.47	748.5	74	23.3	47	S	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Springfield, Ill	29.24	742.7	29.88	758.9	82	27.8	67	Calm	0	0	.....	2ck	5ks	W	W	0	0	Threatening	
Springfield, Massachusetts	29.77	756.1	29.90	759.4	72	22.2	76	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.97	685.0	29.97	761.2	71	21.7	11	SE	12	5.4	.....	.....	10ks	.....	E	0	0	Cloudy	
Thatcher's Island, Mass	29.87	758.7	29.92	760.0	69	20.6	95	SW	8	3.6	.....	5ck	Sm'o	SW	.....	0.01	0.3	Fair	
Toledo, Ohio	29.24	742.7	29.88	758.9	74	23.3	81	W	6	2.7	.....	8c;hz	Haze	W;Calm	Calm	0.05	1.3	Hazy	
Tucson, Arizona	27.42	696.5	29.97	761.2	78	25.6	65	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.55	750.6	30.02	762.5	58.0	14.4	42	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.08	738.9	29.87	758.7	77	25.0	82	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.77	756 1	30.02	762.5	79	26.1	87	S	2	0.9	.....	5cs	0	Calm	.....	0.75	19.1	Fair	
Virginia City, Montana	24.30	617.2	29.78	756.4	59	15.0	28	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.43	747.5	29.79	756.7	64	17.8	65	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.83	757.7	29.94	760.5	79	26.1	78	SW	2	0.9	.....	0	5s	.....	NW	0.32	8.1	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.94	760.5	30.02	762.5	80	26.7	78	SW	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.61	650.6	29.97	761.2	61	16.1	17	SW	10	4.5	.....	0	4s	.....	Calm	0	0	Fair	
Wood's Holl, Mass	29.86	758.4	29.89	759.2	74	23.3	85	S	3	1.3	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.67	728.2	29.92	760.0	64	17.8	78	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.60	751.8	29.75	755.6	81	27.2	63	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	84	28.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	J. B. Gordon.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	80	26.7	83	N	.....	.....	.....	0	0	.....	....	0	0	Hazy	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.25	641.3	.....	.....	65.0	18.3	85	SW	.....	.....	1	.....	10n	.....	.....	0.14	3.6	.....	James Gall.
Navassa, W. I	29.91	759.7	29.99	761.7	85	29.4	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S.A	29.99	761.7	29.99	761.7	82	27.8	83	SE	.....	.....	3	4c	5k	E	....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Hering.
St. Thomas, W. I	29.63	752.6	29.64	752.8	83	28.3	75	E	5	2.2	.....	2c	2ks	NE	.....	0	0	Clear	Robert Mason.
York Factory, B. A	29.80	756.9	29.86	758.4	43.0	6.4	100	N	16	7.2	.....	.....	10n	.....	.....	0.25	6.3	Raining	G. O. Gellich.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,623 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft. or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft. or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,898 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm., Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.15‡	765.8‡			83	28.3	91	NE	2	0.9			2		NE	0	0			Fair	
Navy Yard, Portsmouth, N. H																					
Naval Hospital, Yokohama, Japan	29.85‡	758.2‡			81	27.2	89	SW			1		10ks;ck		SW	0	0			Cloudy	
Adams, Mare I'd, Navy Yard, Cal.	29.89‡	759.2‡			56	13.3	100	SSW			4–5		10		SSW					Cloudy	
Alliance, N. 55° 48′, E. 16° 15′	30.01‡	762.2‡			64	17.8	89	NW			3		0							Blue sky	
Ashuelot, Yokohama, Japan	29.80‡	756.9‡			82	27.8	87	NW			2		10					Smooth		Cloudy	
Colorado, New York, N. Y.	29.90‡	759.4‡			74	23.3	81	W	2	0.9			0			0.33	8.4			Hazy	
Constellation, Nantucket Shoals, Mass.	29.89‡	759.2‡			72.7	22.6	90	WNW			2		8		Calm	Mod'ate	Mod'ate			Cloudy	
Constitution, Navy Yard, Brooklyn, N.Y.	29.93‡	760.2‡			74	23.3	90	NW			2		0							Clear	
Enterprise, Kiel, Germany	30.03‡	762.7‡			72	22.2	53	W			1–2		8		W			Smooth		Cloudy	
Essex, S. 33° 21′, W. 49 26′	30.00‡	762.0‡			58	14.4	94	ESE			6		10		SE			Mod'ate	SE	Raining	
Franklin, Norfolk, Va.	29.97‡	761.2‡			80	26.7	82	SW	8	3.6			2			0	0			Clear	
Hartford Rio de Janeiro, Brazil	30.13‡	765.3‡			76	24.4	60	N	1	0.4			2			0	0			Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.86‡	758.4‡			60	15.6	82	SSW	8.4	3.8			5		SW	0	0			Cloudy	
Kearsarge, Charlottetown, Prince Edward Island	29.85‡	758.2‡			69	20.6	70	W			1		8		W					Fair	
Michigan, Chicago, Ill.	29.83‡	757.7‡			76	24.4	73	N			3		8		WNW					Cloudy	
Monocacy, Shanghai, China	29.71‡	754.6‡			81	27.2	87	SSE			4		5		SSE					Fair	
Monongahela, Yokohama, Japan	29.80‡	756.9‡			80	26.7	??	SW			0–1		kn			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.05‡	763.3‡			81	27.2	83	SW	12	5.4			2		Calm	0	0			Fair	
Onward, Callao, Peru	30.01‡	762.2‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.73‡	755.1‡			79	26.1	95	SSE			4		5							Fair	
Passaic, Washington, D. C.					78	25.6	78	Calm			0		10							Cloudy	
Pensacola, Callao, Peru	30.02‡	762.5‡			60	15.6	94	Calm	0	0			10					Smooth		Overcast	
Portsmouth, Portsmouth, N. H	29.87‡	758.7‡			65	18.3	84	Calm			0		5		NW			Smooth		Fair	
Powhatan, N. 30° 14′, W 81° 59′	30.05‡	763.3‡			82	27.8	79	S			3		2		Calm	0	0	Long	SE	Fair	
Quinnebaug, N. 37° 06′, E. 21° 08′	29.92‡	760.0‡			82	27.8	60	NNW			3		0					Smooth		Clear	
Ranger, Nagasaki, Japan	30.11‡	764.8‡			86	30.0	92	NE			2–3		2		Calm			Smooth		Cloudy	
Richmond, Yokohama, Japan	29.80‡	756.9‡			84	28.9	100	SSW			3		10			0	0	Smooth		Threatening	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡			80	26.7	100	SE			1		5		Calm	0	0			Fair	
Santee, Annapolis, Md.	29.84‡	757.9‡			77	25.0	86	W			1		5?			0.02	0.5			Clear?	
Saratoga, New Bedford, Mass.	29.90‡	759.4‡			72	22.2	100	Calm			0		10		Calm	Light	Light			Overcast	
St. Louis, League Island, Pa	29.95‡	760.7‡			77	25.0	91	NW	5	2.2			2		SW	0.1	3.			Clear	
Trenton, Grave's End, Eng.	29.92‡	760.0‡			68	20.0	65	SSW			2		10		S;W	0	0	Smooth		Cloudy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.89‡	759.2‡			56	13.3	94	SSW			4		10		Calm	0	0	Smooth		Overcast	
Vandalia, Beaufort river, S. C.	30.06‡	763.5‡			81	27.2	83	WSW			2		0			0	0			Clear	
Wabash Boston Mass.	29.86‡	758.4‡			70	21.1	80	SW	6	2.7			5			0	0			Fair	
Wachusett, N. 28° 16′, W. 88° 52′	30.07‡	763.5‡			86	30.0	83	Calm			0		2		Calm			Smooth	SE	Fair	
Wyoming, Marmora Near San Stephano Point. Sea of	29.99‡	761.7‡			75	23.9	60	NNE			5–6		2		NNE			Smooth	NNE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; **the distinction** between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do **not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, **instead of 7:35 A. M.,** Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitelaw.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.20‡	767.1‡				SE			4				SE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Yokahama, Japan†		29.84‡	757.9‡	82	27.8	96	Calm			0		Scs			0	Smooth		Misty	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf N. 28° 32′, E. 128° 09′		29.88‡	758.9‡	80	26.7	82	Calm			0		0				Smooth		Blue sky	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 00′, W. 14° 10′		30.00‡	762.0‡	69.5	15.3	73	NW			6		5?		NNW	0	Mod'ate	NW	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		29.83‡	757.7‡				W			2		5?		W				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 55′, W. 58° 46′		29.92‡	760.0‡	76	24.4	77	WSW			5		8		WNW	0	Light	SW	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 48° 00′, W. 10° 00′		29.93‡	60.2‡	60	15.6	82	WNW			5		4				5	NW	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

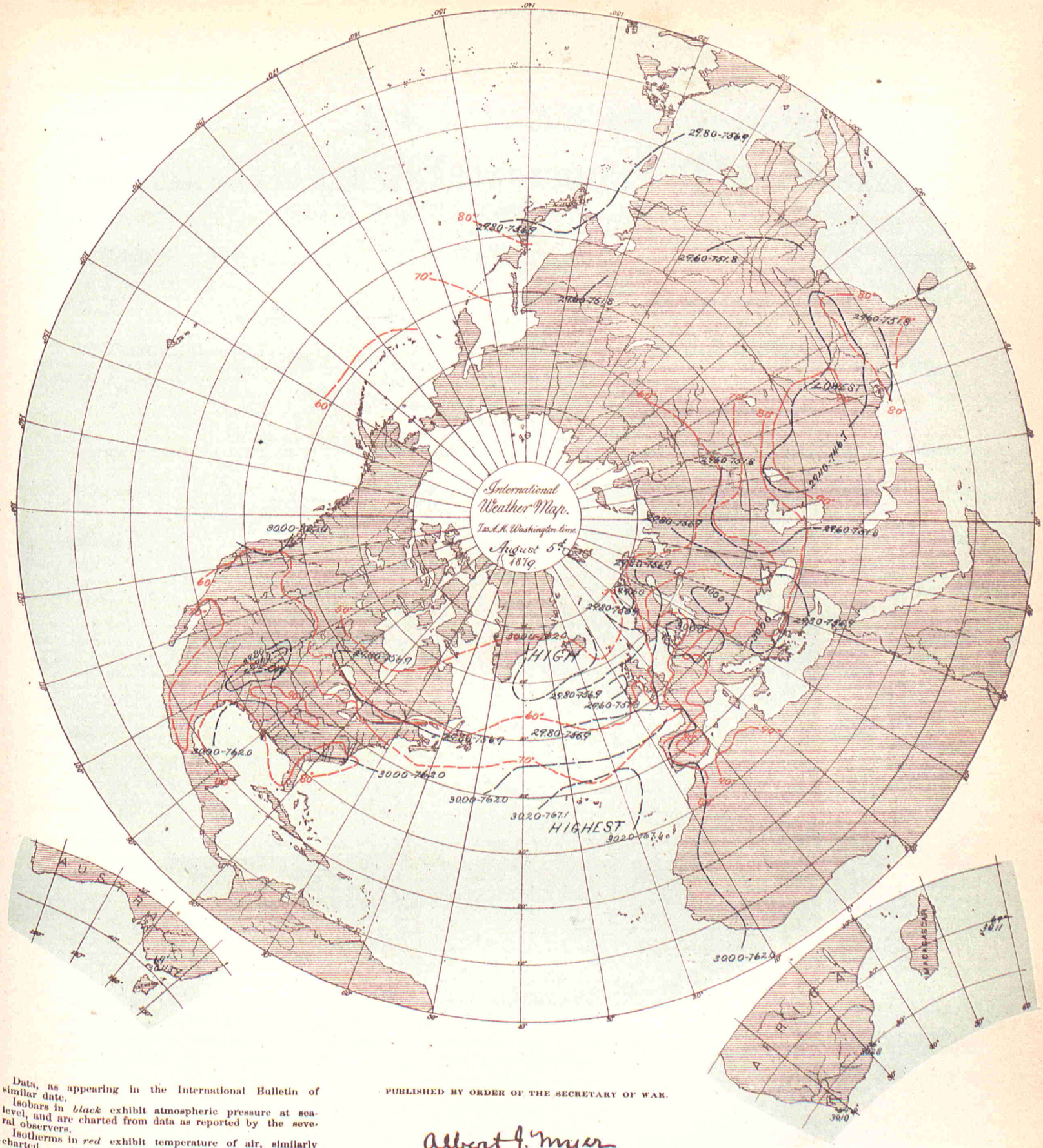
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 6, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.01	762.3	67.5	19.7	86	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.99	761.8	82.9	28.3	77	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxnche.
Algiers	.....	.....	29.94	760.4	86.0	30.0	54	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	29.92	760.0	84.0	28.9	71	ESE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.99	761.7	92.7	33.7	16	NW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.04	762.9	89.1	31.7	35	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	.....	.....	76 8	24.9	40	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	29.98	761.5	97.2	36.2	32	SE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	29.98	761.5	102.6	39.2	26	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 800? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.31	744.4	29.82	757.4	87.4	30.8	42	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.14	740.1	29.66	753.5	83.1	28.4	46	WNW	5.4	2.4	.....	.....	2	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.02	737.0	29.83	758.1	81.3	27.4	57	S	.....	.....	1	.....	3cs;k	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.64	727.5	29.82	757.4	81.5	27.5	70	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.51	724.1	29.84	757.8	88.5	31.4	52	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.58	725.8	29.84	757.9	79.3	26.3	72	NW	.....	.....	2	.....	5	.....	.....	0.083	2.1	.....	Prof. C. Wagner.
Lemberg	28.91	734.3	29.84	758.0	78.1	25.6	60	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.80	756.9	29.91	759.6	88.2	31.2	36	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.47	748.4	29.91	759.7	85.2	29.6	43	SE	.....	.....	1	.....	4	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.61	752.2	29.88	758.9	82.8	28.2	52	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.82	757.5	29.93	760.1	86.0	30.0	48	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.16	740.7	29.89	759.2	84.6	29.2	56	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 884 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'per 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.43	747.5	29.52	749.8	55.1	12.8	.....	ENE	15	6.7	.....	.....	9	.....	.....	0.210	5.33	Overcast	W. Boswell.
Ardrossan	29.48	748.6	29.49	749.0	54	12.2	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	Wm McNeil &G.Carrick
Armagh, Observatory	29.49	749.0	29.71	754.6	58.1	14.5	.....	NW	13	5.8	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	53.1	11.7	.....	W	42	18.8	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	.....	.....	29.57	751.1	52.3	11.3	.....	SSW	54	24.1	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.15	740.4	29.54	750.3	56.3	13.5	.....	W	.....	.....	4	.....	10	.....	.....	0.44	11.2	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.93	760.2	83	28.3	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.61	752.1	29.70	754.4	64.5	18.1	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.70	754.4	65.4	18.6	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.67	753.6	29.80	756.9	60.1	15.6	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper. R. E.
Donaghadee	29.60	751.8	29.64	752.8	53	11.7	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.70	756.7	29.82	757.4	62	16.7	.....	WSW	.....	.....	5	.....	4	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.70	754.4	29.92	760.0	60.4	15.8	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.72	704.1	30.01	762.2	64.0	17.8	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	80	26.7	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.78	756.4	61	16.1	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	82.1	27.8	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.28	743.7	29.48	748.8	57.6	14.2	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean. [C.
Great Yarmouth	29.70	754.4	29.71	754.6	65	18.3	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.00	751.8	29.77	756.1	64.8	17.9	.....	SSW	.....	.....	1	.....	4	.....	.....	.....	.....	Showery	The Staff, for G.B.Airy.
Guernsey	29.74	755.4	29.96	761.0	61.5	16.4	.....	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.96	761.0	30.08	764.0	62	16.7	.....	W	.....	.....	4	.....	3ck	.....	.....	0.38	9.7	Fine	M. P. Moyle.
Holyhead	29.68	753.9	29.70	754.4	59	15.0	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.70	754.4	29.99	761.7	62.3	16.8	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.74	755.4	29.78	756.4	62.0	16.7	.....	SW	19	8.5	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester, Museum	29.43	747.5	29.68	753.9	59.1	15.1	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	82.4	28.0	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.46	748.3	29.54	750.3	55	12.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.06	763.5	84.5	29.2	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.48	748.8	29.66	753.4	64.7	18.2	.....	SW	.....	.....	6	.....	10kd	.....	WSW	0.316	8.02	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.18	741.1	29.69	754.1	58.9	14.9	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.76	755.9	60	15.6	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.80	756.9	29.88	758.9	62.3	16.8	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.80	756.9	29.92	760.0	60	15.6	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	29.66	753.4	29.82	757.4	58	14.4	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.63	752.6	54.5	12.5	.....	ENE	17	7.6	.....	.....	10	.....	.....	0.65	16.5	Raining	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.58	758.9	29.94	760.5	68.0	31.1	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Serg't.W. H.Lyne.
Sheffield	29.35	744.5	29.62	752.3	59.0	15.0	.....	SW	.....	.....	4	.....	9	.....	.....	0.20	5.1	Overcast	W. F. Cooper.
Silloth Rectory	29.44	747.5	29.47	748.5	58.0	14.4	84	NW	.....	.....	5	.....	9	.....	.....	0.200	5.08	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.56	750.8	53.3	11.8	.....	WSW	28	12.5	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	63.6	17.6	.....	SW	.....	.....	3–4	.....	6	.....	.....	.....	.....	Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.88	758.9	29.89	759.2	62	16.7	.....	W	.....	.....	7	.....	5	.....	.....	.....	.....	D. clouds	W.Newcombe.
Valencia, Observatory	29.91	759.7	29.94	760.5	58.3	14.6	.....	WNW	18	8.0	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.17	766.3	30.21	767.3	56.2	14.6	.....	S	7.0	3.0	.....	9	10	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.49	749.0	57.1	13.9	.....	E	.....	.....	2	.....	10s	.....	.....	0.45	11.4	Overcast	Andrew Gibb.
Mauritius, Observatory	29.86	758.4	30.05	763.2	70.2	21.2	70	WSW	6.5	2.9	.....	.....	2	.....	SSE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.27	768.8	30.37	771.4	48.2	9.0	74	SE	14	6.3	.....	.....	3	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 9 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
H. M. S. "Fawn," N. 40° 55'. E. 28° 45'	.....	.....	Blue sky	Capt.W.J.L.Wharton.
Atmosphere, N. 48° 40' W. 28° 10'	5	SW	D. clouds	.....
Barque Commewyne, N 46° 25', W. 35° 50'	.....	.....	Foggy	Capt. A. Buchan.
Gordon Castle, N. 42° 30', W. 47° 10'	3	SW	Misty	.....
German Brig "W. von Freeden" N. 34° 35', W. 69° 00'	5	S;NE	Raining	Capt. H. v. Freeden.
Theophane, N. 20° 50', W. 30° 10'	.....	.....	D. clouds	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.25	666.7	29.97	761.2	67.1	19.5	90	S	.....	.....	1	10s;d	.....	.....	.....	0	0	.....	Federico Maisoa.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	67.3	19.6	74	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Farôe	29.71	754.6	29.73	755.1	61.3	16.3	84	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.82	757.5	29.87	758.6	54.0	12.2	73	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.02	762.4	30.03	763.5	52.2	11.2	80	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Thorshavn (Farôe)	29.88	759.0	29.92	759.9	51.4	10.8	67	NE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	29.56	750.8	29.67	753.6	66.2	19.0	94	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Thunder-storm.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.9	30.04	762.9	66.9	19.4	60	SW	.....	.....	2	.....	5k	.....	SW	0.047	1.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.5	29.93	760.3	64.8	18.2	69	SW	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.66	753.4	29.91	759.7	64.4	18.0	53	NW	.....	.....	5	.....	10	.....	NW	0.008	0.2	Raining	Klein, Commandant.
Avignon, Normal School	29.89	759.3	29.97	761.3	86.0	30	47	N	.....	.....	1	.....	2	.....	NW	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.46	748.3	30.00	762.0	68.2	20.1	49	WSW	.....	.....	2	.....	6kn	.....	W	0.276	7.0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.70	754.3	29.95	760.8	67.5	19.7	68	WSW	.....	.....	2	.....	8	.....	WSW.	0.010	0.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.19	741.5	30.07	763.8	66.2	19	70	S	.....	.....	2	.....	10	SW	.....	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.5	30.16	766.1	65.5	18.6	73	S	.....	.....	1	.....	kn	W	NW	0.12	3.	.....	Marlot, Director.
Bourges, Normal School	29.49	749.1	30.04	762.9	68.2	20.1	61	W	.....	.....	1	.....	k	SW	SW	0.04	1.	.....	M. Gence, Director.
Brest, Naval Observatory	29.74	755.3	29.98	761.5	66.9	19.4	73	WSW	.....	.....	3	.....	4	.....	W	0.354	9.0	Squally	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.48	748.7	29.87	758 8	77.0	25	49	WNW	.....	.....	1	.....	2	.....	WNW	0	0	Slightlycl'dy	September, Dir.
Caen, Normal School	29.89	759.3	29.97	761 1	67.3	19.6	68	SW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.45	747.9	30.00	761.9	66.2	19	68	SW	.....	.....	1	.....	5	.....	SW	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.6	29.98	761.4	69.8	21.0	56	WSW	.....	.....	2	.....	5	WSW	WSW	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.73	729.8	30.06	763.4	68.2	20.1	55	W	.....	.....	1	.....	8	.....	WSW	0	0	.....	Allnard, Director.
Commercy, Normal School	29.14	740.2	29.98	761.6	64.0	17.8	72	WSW	.....	.....	3	.....	5k	WSW	WSW	0.035	0.9	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.3	30.05	763.3	84.2	29	53	NW	.....	.....	2	.....	5	.....	W	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.31	744.4	30.06	763.4	69.8	21.0	53	NW	.....	.....	1	.....	10n	.....	NW	0.071	1.80	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.91	759.6	30.12	765.0	66.9	19.4	63	WSW	.....	.....	1	.....	8	.....	W	0.059	1.5	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.71	754.5	30.00	762.1	66.2	19	54	NW	.....	.....	3	.....	5	.....	W	0.030	0.75	Cloudy	Dorrier, Director
Lons-Le-Saulnier, N.School	29.17	741.0	30.07	763.6	63.9	17.7	82	SSW	.....	.....	1	.....	10n	SSW	SSW	0.220	5.6	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.3	30.08	763.9	64.8	18.2	66	W	.....	.....	3	.....	.....	.....	W	0.228	5.80	.....	Lt. P. Carré, Observer.
Lyons Obs'y (Park Station)	29.47	748.5	30.08	764.0	64.0	17.8	76	NE	.....	.....	1	.....	10	.....	W	0.089	2.25	Rainy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.68	753.9	29.94	760.5	81.1	27.3	65	SW	.....	.....	0-1	.....	8	.....	SW	Inap.	Inap.	.....	E. Stephan, Director
Mirecourt, Normal School	28.96	735.6	29.98	761.5	64.8	18.2	78	SSW	.....	.....	1	.....	10k	SSW	SSW	.....	.....	Covered	Barbier, Director
Mont-Louis	24.96	634.0	30.28	769.0	66.6	19.2	70	ESE	15.0	6.7	.....	.....	.....	.....	W	0	0	.....	M. Cave
Nice	29.90	759.5	29.94	760.5	82.8	28.2	70	NW	.....	.....	1	.....	1	W	NW	0	0	Hazy	M. Boissieré, Director.
Nîmes, Normal School	29.80	757.0	29.97	761.2	80.6	27	54	N	.....	.....	1	.....	5	.....	SW	0	0	Fair	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.71	754.7	66.6	19.2	52	W	.....	.....	3	.....	5	.....	WSW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.66	575.7	.....	.....	53.2	11.8	.....	SW	.....	.....	2	.....	1	W	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.03	760.1	30.03	762.7	77.7	25.4	53	NW	15.0	6.7	.....	.....	5	.....	W	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.27	641.9	.....	.....	46.0	7.8	100	W	.....	.....	3	.....	.....	.....	.....	0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	70 2	21.2	57	W	.....	.....	1	.....	8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.87	758.8	29.96	761.0	62.2	16.8	72	S	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.97	761.2	30.0	761.9	60.8	16.0	73	SW	.....	.....	3	.....	8	SW	SW	0.094	2.38	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.82	757.5	29.99	761.8	68.0	20.0	48	SW	.....	.....	3	.....	5	.....	W	0.012	0.3	.....	E. Renou, Director.
Tarbes, Normal School	29.12	739.7	30.18	766 5	69.8	21	82	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Hugues, Director.
Toulouse, Observatory	29.43	747.6	30.16	766.0	69.1	20.6	68	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.85	758.1	30.04	763.1	68.0	20.0	43	WSW	.....	.....	3	.....	8	.....	W	0.016	0.4	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.50	749.4	30.00	761.9	64.8	18.2	52	WSW	.....	.....	5	.....	.....	.....	.....	0.002	0.04	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.39	746.5	30.08	764.1	69.8	21	77	N	.....	.....	1	.....	10	.....	NW	0.094	2.4	Covered	Nicot, Director.
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	29.78	756.3	29.80	757.0	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.51	140.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.74	755.3	29.76	755.9	82.2	27.9	80	SSE	8.3	3.7	.....	cs	4k	.....	.....	0	0	Cloudy	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.11	739.3	29.95	760.7	75.7	24.3	51	W			4		5	W		0.248	6.3		Prof. Dr. Hoh.
Berlin	29.67	753.6	29.84	757.8	77.5	25.3	67	S			3		3			0.146	3.7		Prof. Dr. Arndt.
Breslau	29.33	745.0	29.86	758.4	86.0	30.0	37	NW			1		3			0	0		Royal University Ob's'y.
Carlsruhe	29.53	750.0	29.94	760.5	71.6	22.0	60	SW			4		10	SW		0.926	23.5		Albert Senz.
Cassel	29.32	744.6	29.92	760.0	73.8	23.9	65	W			2		7	WSW		0.427	10.84		Dr. H. Möhl.
Crefeld	29.69	754.1	29.85	758.2	71.6	22.0	47	W			5		6k			0	0		Director Lose.
Emden			29.77	756.2	70.2	21.2	63	WSW			3		5			0.043	1.1		Prof. Dr. Prestel.
Frankfort on the Main	29.54	750.4	29.90	759.4	74.8	23.8		WSW			3		8			1.126	28.6		Physical Society.
Freienwalde on the Oder	29.78	756.3	29.82	757.3	79.0	26.1	71	S			2		9ks			0.016	0.4		Dr. Assmann.
Friedrichshafen	28.62	727.0	30.02	762.6	65.5	18.6	82	WSW			7		10	WSW		0.193	4.9	Thunder-storm.	M. Wilhelm.
Hamburg	29.72	754.9	29.79	756.6	68.7	20.4	85	W			5		10n			0.024	0.6	Showery	Captain F. Hegeman
Kiel	29.74	755.3	29.75	755.7	67.3	19.6	88	W			4		10			0.144	3.65		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.52	757.3	29.89	759.3	73.6	23.1	61	E			2		8			0.004	0.1		Prof. E. Luther.
Köslin			29.80	756.9	78.8	26.0		SW			2		2			0	0		H. Müller.
Leipsic Observatory	29.43	747.5	29.83	757.6	81.7	27.6	48	WSW			4		6	WSW		0.079	1.9		Prof. Bruhns, Privy Councilor.
Memel	29.86	758.5	29.91	759.7	69.8	21.0	69	WNW			2		7cr						Skalweit.
Munich (München)	28.15	715.1	30.02	762.4	72.9	22.7	65	W			1		9			0.016	0.4		Dr. C. Lang.
Neufahrwasser	29.88	759.0	29.90	759.4	69.1	20.6	76	NE			1		7			0	0		A. Lothes.
Posen	29.52	749.8	29.79	756.7	80.4	26.9	68	SSE			4		8			0	0		Dr. Magener.
Strassburg (in Alsace)	29.47	748.5	30.00	762.1	68 7	20.4	71	SW			1		10	W		0.029	0.73	Raining	Imp. University Observatory.
Stuttgart	28.99	736.4	29.89	759.3	72.1	22.3	50	W			2		10			0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.6	29.89	759.2	73.4	23.0	63	SW	1.1	0.5			8kn		W	0	0		T. Hopfner.
Wustrow	29.76	755.8	29.78	756.4	72.5	22.5	83	S			3		6s			0.177	4.5		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	760.7	29.93	760.2	85.6	29.8		NE			3.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.41	747.0	29.46	748.2	83.1	28.4	71	SW	13.0	5.8			0			0	0	Blue sky	
Deesa	29.00	736.6	29.46	748.2	91.5	32.9	46	SW	12.4	5.5			7	NE		0	0	D. clouds	
Bombay	29.58	751.4	29.62	752.4	77.0	25.0	96	W	23.0	10.3			10		SSW	1.67	39.9	Raining	
Poona	27.79	705.9	29.75	755.7	72.9	22.7	90	WSW	15.0	6.7			10		WSW	0.83	21.1	Drizzling	
Lahore	28.66	728 0	29.37	746.0	97.2	36.2	44	W	4.2	1.9			3			0	0	D. clouds	
Belgaum	27.18	690.4	29.75	755.5	68.7	20.4	93	WNW	18.0	8.0			10		W	1.37	34.8	Raining	
Roorkee	28.51	724.2	29.38	746.3	89.2	31.8	68	Calm	0.8	0.4			2					Thunder-storm	
Agra	28.54	732.6	29.40	746.7	82.7	28.2	87	E					9		E	0	0		
Nagpur	28.47	723.1	29.51	749.5	75.9	24.4	92	SW	7.8	3.5			10		E	0.67	17.0	Overcast	
Lucknow	29.00	736.6	29.37	746.0	82.3	27.9	79	E	8.0	1.8			10			0.03	0.8	Overcast	
Allahabad	29.07	738.4	29.38	746.2	81.7	27.6	91	SSW	5.2	2.3			10		S	0.11	2.8	Overcast	
Patna	29.21	741.8	29.39	746.4	81.9	27.7	85	E	0.4	0.2			10	E	E	0.12	3.0	Overcast	
Hazaribagh	27.48	698.1	29.48	748.9	75.2	24.0	90	S	12.6	5.6			10			0.69	17.5	Showery	
Cuttack	29.45	748.1	29.54	750.3	81.9	27.7	85	SW	2.0	0.9			7			0.35	8.9	D. clouds	
Calcutta (Alipore)	29.50	749.2	29.52	749.7	80.9	27.2	90	SSW	1.0	0.4			10	S		0	0	Overcast	
Goalpara	29.16	740.6	29.54	750.2	84.7	29.8	79	Calm	3.2	1.4			8	E		1.71	43.4	D. clouds	
Chittagong	29.53	750.0	29.62	752.3	79.2	26.2	93	SSE	7.6	3.4			10			0.12	3.0	Raining	
Sibsagar	29.22	742.0	29.54	750.4	89.0	31.7	69	SW	2.1	0.9			7			1.32	33.5	D. clouds	
Jubbulpore	28.10	713.6	29.46	748.2	74.8	23.8	95	Calm	8.8	3.9			10		N	1.0	26.4	Drizzling	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.51	749.5	29.90	759.4	90.0	32.2	38	SW	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.35	745.6	29.85	758.1	86 9	30.5	42	ESE	.....	.....	2	.....	8	NNW	.....	0.055	1.4	.....	Prof. Schiaparelli.
Padua	29.78	756.3	29.88	759 0	86.9	30.5	51	SE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.0	29.84	758 0	83.8	28.8	53	SE	1.8	0.8	.....	.....	6	NE	.....	0.122	3.1	.....	Prof. P. F. Denza.
Genoa	29.78	756.3	29.90	761.0	78 8	26.0	72	SW	8.1	3.6	.....	.....	6	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.03	711.9	29.85	758.1	81.0	27.2	51	N	.....	.....	2	.....	3	E	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.5	29.87	758.7	83.3	28.5	62	E	13.0	5.8	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.68	753.8	29.92	760.0	91.4	33.0	38	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.89	759.1	29.97	761.2	82.4	28.0	70	W	3.5	1 7	.....	.....	2	W	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.7	29.96	761.0	88.9	31.6	42	SW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.5	29.95	760.7	88.3	31.3	21	ESE	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.09	738.8	29.93	760.2	90.7	32.6	59	NW	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.78	756.3	29.96	761.0	84.6	29.2	51	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Padinotti.
Palermo	29.73	755.2	29.98	761.4	81.7	27.6	66	E	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.3	29.97	761.2	88.2	31.2	50	SE	6.3	2.8	.....	.....	3	NNE	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.5	30.02	762.6	86.4	30.2	42	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.87	758.7	81.8	27.7	79	NNE	2.6	1.2	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.93	760.2	80.1	26.7	84	WSW	4.2	1.9	.....	.....	2cs;s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.80	756.9	29.86	758.4	77.0	25.0	88	SSW	7.2	3 2	.....	.....	10n	.....	.....	0.215	5.46	Thunder-storm	The Staff.
Wakayama	29.80	756.9	29.85	758 2	81.9	27.7	81	SSW	0.9	0.4	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	8	.....	E	0	0	Cloudy	P. Ceballos.
Guadalajara	25.09	637.2	30.11	764.8	57.2	14.0	74	SW	.....	.....	1	1c	9k	NW	.....	0.008	0.2	Fair	Prof. L. Peres.
Leon	24.47	621.5	30.10	764.5	64.0	17.8	89	SW	.....	.....	2	1c	9k	NW	.....	0.008	0.2	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.2	30.09	764.2	57.2	14.0	81	Calm	0	0	.. ..	9k	0	E	.....	0.26	6.5	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63 0	17.2	84	Calm	.....	.....	0	1c	8ks	SW	SW	0	0	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.96	760.9	29.97	761.2	78.3	25.7	93	S	.....	.....	1	.....	10	.....	S	0.39	10.0	Raining	Prof. M. M. Cházaro.
San Luis Potosi	24.23	615.5	30.14	765.6	62.4	16.9	70	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel'.
Zacatecas	22.68	573 5	30.11	764.9	59.5	15.3	78	Calm	.....	.....	0	6c	0	Calm	.....	0.71	18.0	½ clouded	A. Nuñez.
Puebla (Catholic Institute)	23.48	596.5	30.28	769.1	52.9	11.6	84	NE	0.7	0.3	.....	.....	7ck	.....	N	0.37	9.3	Cloudy	Prof. P. Spina,
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.63	752.7	29.92	760.0	78.4	25.8	91	SE	.....	.....	1	.....	8k	.....	SE	0.04	1.0	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.2	29.85	758.2	66.2	19.0	.....	W	.....	.....	4	.....	.....	.....	.....	0.004	0 1	.....	
Groningen	29.74	755.5	29.80	756.9	67.5	19.7	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.264	6 7	.....	
Helder	29.77	756.2	29.77	756.2	63.3	17.4	.....	SW	.....	.....	5	.....	.....	.....	.....	0.028	0.7	.....	
Hellevoetsluis	29.82	757.4	29.82	757.4	65.7	18.7	83	SW	.....	.....	5	.....	.....	.....	.....	0.047	1.2	.....	
Utrecht	29.80	757.0	29.85	758.2	67.6	19.8	60	SW	.....	.....	4	.....	5	.....	.....	0.012	0.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.63	752.6	29.69	754.0	66.2	19.0	63	NNW	2.9	1.3	.....	.....	10	.....	.....	0.291	7.4	.....	.....
Brönö	29.84	758.0	29.88	759.0	60.8	16.0	55	NNE	4	2	.....	.....	1	.....	.....	0.610	15.5	.....	.....
Christiania	29.67	753.7	29.82	757.3	68.7	20.4	59	E	2	1	.....	.....	4	.....	.....	0	0	.....	.....
Tromsö	29.82	757.3	29.86	758.4	53.1	11.7	79	Calm	0	0	.....	.....	10	.....	.....	0.063	1.6	Raining	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 1h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.11	764.8	30.30	769.5	74.3	23.5	85	SW	1.8	0.8	.....	.....	7	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.99	736.4	29.95	760.8	88.9	31.6	22	W	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.7	30.15	765.9	73.2	22.9	61	SW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.2	30.08	764.0	73.8	23.2	34	N	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.27	768.9	30.36	771.1	81.7	27.6	60	SSW	0	0	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.01	762.3	67.7	19.8	.....	WNW	.....	.....	2	.....	3	.....	WNW	1	WNW	D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.98	761.6	79.9	26.6	.....	NE	.....	.....	3	.....	3	.....	NE	3	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Sado, Capt. J. A. de Brito Capello, N. 10° 20', W. 21° 25'	.....	.....	29.97	761.1	79.7	26.5	.....	WNW	.....	.....	1	.....	9	.....	WNW	1	WNW	D. clouds, 5 hr's rain-fall.	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.88	759.0	81.1	27.3	.....	E	.....	.....	3	.....	10	.....	E	2	SE	Overcast	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	748.0	29.85	758.1	83.1	28.4	46	S	7	3	.....	.....	6ck	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.47	748.6	29.88	758.9	68.0	20.0	75	NW	2	1	.....	.....	10	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.62	752.3	29.85	758.1	77.9	25.5	53	E	7	3	.....	.....	4k	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.82	757.3	29.83	757.7	69.6	20.9	81	NW	7	3	.....	.....	6kn	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.6	29.80	756.8	75.6	24.2	49	N	7	3	.....	.....	2cks;k;	ck;cs]	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.82	757.5	29.89	759.3	78.3	25.7	53	NW	9	4	.....	.....	6ks	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758.7	29.89	759.2	67.1	19.5	91	SW	9	4	.....	.....	5	.....	.....	.....	.....	Lagorio.
Moscow	29.22	742.1	29.75	755.7	60.1	15.6	57	NNW	13	6	.....	.....	8ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.43	747.4	29.62	752.4	75.0	23.9	30	WNW	31	14	.....	.....	5	.....	.....	Blank	Blank	Meteorological Obs.
Archangel	29.85	758.2	29.87	758.7	57.7	14.3	79	E	2	1	.....	.....	10	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.36	720.3	29.70	754.4	77.2	25.1	34	NW	45	20	.....	.....	1k	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.65	753.0	29.56	750.9	77.2	25.1	30	N	9	4	.....	.....	5ks	.....	.....	Blank	Blank	Capt. Wisganow.
Krotkowo*	28.94	735.0	29.39	746.4	66.2	19.0	48	N	7	3	.....	.....	3s	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.17	740.8	29.43	747.4	60.8	16.0	73	NW	4	2	.....	.....	10n	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.58	725.8	29.56	750.7	54.1	12.3	96	E	18	8	.....	.....	10	.....	.....	Blank	Blank	Meteorological Obs.
Nukuss	29.30	744.2	29.52	749.9	66.0	18.9	88	WNW	2	1	.....	.....	10n	.....	.....	Blank	Blank	
Tashkend	27.90	708.6	29.31	744.4	56.1	35.6	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.13	740.0	29.61	752.2	63.0	17.2	62	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.6	29.75	755.7	63.1	17.3	71	NW	7	3	.....	.....	3	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.60	751.8	29.74	755.4	80.1	26.7	84	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	Physical Observat ory Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.61	752.2	29.71	754.7	76.6	24.8	83	SE	7.8	3.5	.....	.....	9n	.....	.....	Blank	Blank	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 45° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.88	758.9	29.98	761.5	78.3	25.7	65	ENE	4.9	2.2	.....	.....	0	.....	.....	0	0	Misty	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.16	766.0	30.21	767.4	64.9	18.3	79	W	2.0	0.88	.....	.....	10	.....	.....	0.209	5.3	Covered	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.17	690.1	.....	.....	68.9	20.5	66	NE	9.2	4.07	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.60	705.9	29.85	758.2	93.6	34.2	21	SW	8.9	4.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.78	756.5	29.93	760.1	93.2	34.0	48	ESE	4.6	2.08	.....	.....	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	742.0	30.09	764.2	68.0	20.0	50	NE	10.5	4.7	.....	1	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.01	762.2	30.07	763.8	81.6	27.6	83	NE	1.8	0.8	.....	4c	0	WSW	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.6	29.84	758.0	83.9	28.8	79	NE	1.6	0.7	.....	.....	2s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.8	30.01	762 2	78.6	25.9	63	WSW	8.6	3.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.92	760.0	30.01	762.3	84.6	29.2	75	SE	6.5	2.90	.....	5cks	4k	SE	SE	0.096	2.00	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid 655.5 m. or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.76	755.8	29.80	756.8	69.1	20.6	.....	S	.....	.....	2	.....	7	.....	.....	0.236	6.0	.....	
Umea	29.82	757.4	29.87	758.7	73.4	23.0	50	W	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.83	757.7	29.88	759.0	72 7	22.6	69	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.68	753.9	29.86	758.4	73.0	22.8	48	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	
Wisby	29.76	755.9	29.82	757.4	69.1	20.6	68	NE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.75	755.7	29.84	757.9	76.1	24.5	61	ENE	6.7	3.0	.....	.....	2	.....	E	0.004	0.09	.....	Nils Ekho m.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.5	30.04	763.0	64.2	17.9	77	S	.....	.....	3	.....	10	.....	.....	0.209	5.3	Covered	The Observatory.
Zurich	28.45	722.6	30.07	763.6	61.2	16.2	99	W	.....	.....	2	.....	10	.....	.....	0.669	17.0	Thunder-storm.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.3 mm.; Thermometer, —4.4 Cent.; Relative Humidity, +24 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.99	761.7	76.5	24.7	48	NE	14	6.5	.....	.....	3	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.8	85.1	29 5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.56	750.8	29.67	753.6	87.4	30.8	53	WNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.61	752.1	29.67	753.6	63	17.2	95	SW	6	2.7	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	G. A. Biair.
Charlottetown, P. E. Island	29.69	754.1	29.73	755.1	65	18.3	89	SW	8	3.6	.....	.....	10n	.....	SW	Inap.	Inap.	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.48	748.8	29.66	753.4	69.0	20.6	70	W	.....	.....	4	0	0	.....	.....	0.065	1.65	Clear	James Smith, M. A.
Dalhousie, N. B	29.43	747.5	29.59	751.6	67 4	14.1	97	E	.....	.....	1	0	8ks	.....	.....	0.09	2.3	Cloudy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.52	749.8	29.54	750.3	55	12.8	97	Calm	0	0	.....	5k	Haze	W	Calm	Inap.	Inap.	Hazy	J. McWilliams.
Fredericton, N. B	29.62	752.3	29.68	753.9	63.8	17.7	91	SE	7	3.1	.....	.....	10s	.....	.....	0.935	25.02	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.00	736.6	29.80	756.9	67	13.9	84	NW	14	6.3	.....	5k	5ks	NW	NW	0	0	Cloudy	James Stewart.
Granton, Ontario	28.81	731.8	29.87	758.7	69	20.6	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.68	753.9	29.81	757.2	63	17.2	93	SW	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.87	758.7	70.5	21.4	68	NW	.....	.....	2	2cs	0	NW	.....	0	0	Fine	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.80	756.9	70	21.1	66	W	6	2.7	.....	2k	0	W	.....	0.38	9.7	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.73	755.1	29.77	756.1	68.6	20.3	77	SW	10	4.5	.....	5ck	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.47	748.5	29.66	753.4	67	19.4	79	SW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.1	29.85	758.2	67	19.4	74	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.11	739.4	29.82	757.4	72.5	22.5	64	W	.....	.....	3	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.20	741.7	29.86	758.4	71	21.7	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.70	754.4	29.75	755.6	64.6	18.1	.....	SE	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.27	743.4	29.89	759.2	64	17.8	92	W	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	M. Payne.
*Quebec, Quebec	29.31	744.5	29.61	752.1	64	17.8	88	W	.....	.....	3	0	0	.....	.....	0.02	0.5	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.36	745.7	29.81	757.2	63	17.2	84	NW	15	6.7	.....	2k	0	NW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.62	752.3	29.67	753.6	59	15.0	96	S	.....	.....	1	.....	Fog	.....	.....	0.20	5.1	Foggy	Dr. Gove.
St. John, N. B	29.54	750.3	29.70	754.4	57	13.9	100	S	9	4.0	.....	.....	Fog	.....	.....	0.03	0.8	Heavy fog	G. Murdock, C. E.
*Saugeen, Ontario	29.17	740.9	29.85	758.2	72	22.2	77	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.76	755.9	29.80	756.9	65	18.3	82	S	7	3.1	.....	8ck	2ks	W	S	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.85	758.2	69	20.6	64	NW	11	4.9	.....	0	0	.....	.....	0.12	3.0	Clear	Magnetic Observatory.
Windsor, N. S	29.75	755.6	29.78	756.4	67.5	19.7	95	S	12	5.4	.....	.....	10n	.....	.....	0.02	0.5	Fair	Prof. John F. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.67	753.6	29.91	759.7	72.5	22.5	71	SE	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.62	752.3	29.83	757.7	73	22.8	63	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Alpena, Michigan	29.23	742.4	29.85	758.2	68	20.0	65	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	46	7.8	100	W	21	9.4	.....	.....	10s	.....	W	0.54	13.7	Cloudy	
Atlanta, Georgia	28.87	733.3	29.95	760.7	81	27.2	78	SW	6	2.7	.....	2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	29.82	757.4	29.84	757.9	77	25.0	91	W	7	3.1	.....	5ck	0	W	.....	0.15	3.8	Fair	
Augusta, Georgia	29.82	757.4	30.00	762.0	82	27.8	79	SE	1	0.4	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Baltimore, Maryland	29.85	758.2	29.89	759.2	81	27.2	67	NW	4	1.8	.....	5c	Sm'e	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.80	756.9	29.82	757.4	81	27.2	83	NW	10	4.5	.....	2ck	0	Calm	.....	0.01	0.3	Clear	
Bismarck, Dakota	28.24	717.3	30.10	764.5	53	11.7	67	NW	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear	
Boerne, Texas	28.55	725.2	29.81	757.2	75	23.9	90	S	6	2.7	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.09	688.1	30.05	763.3	62	16.7	46	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.62	752.3	29.76	755.9	78	25.6	69	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.83	732.3	29.81	757.2	79	26.1	70	E	9	4.0	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	57	13.9	87	NW	9	4.0	.....	2c	0	W	.....	0.42	10.7	Clear	
Brownsville, Texas	29.88	758.9	29.93	760.2	83	28.3	83	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.18	741.1	29.84	757.9	73	22.8	76	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.46	748.3	29.72	754.9	73	22.8	59	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.56	750.8	29.92	760.0	85	29.4	72	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	29.93	760.2	29.94	760.5	81	27.2	87	SW	14	6.3	.....	1k	0	SW	.....	0	0	Clear	
Cape Henry, Virginia	29.87	758.7	29.89	759.2	80	26.7	78	SW	5	2.2	.....	5k	5s	SW	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.94	760.5	29.95	760.7	83	28.3	79	W	24	10.7	.....	2k	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.83	757.7	29.86	758.4	75	23.9	85	SW	12	5.4	.....	5c	0	W	.....	0	0	Fair	
Castroville, Texas	29.20	741.7	29.87	758.7	78	25.6	82	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.93	760.2	29.99	761.7	82	27.8	75	W	5	2.2	.....	2c	0	Calm	.....	0	0	Fair	
Charlotte, North Carolina	29.13	739.9	29.90	759.4	82	27.8	75	SW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.21	741.9	29.96	761.0	80	26.7	78	Calm	0	0	.....	2cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	56	13.3	81	NE	4	1.8	.....	5ck	5s	Calm	NE	0	0	Cloudy	
Chicago, Illinois	29.22	742.2	29.87	758.7	75	23.9	77	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.32	744.7	29.93	760.0	75	23.9	86	SE	1	0.4	.....	.....	10n	.....	W	1.91	48.5	Light rain	
Cleveland, Ohio	29.20	741.7	29.88	758.9	74	23.3	86	S	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Coleman City, Texas	28.15	715.0	29.72	754.9	78	25.6	65	SW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.11	739.4	29.90	759.4	75	23.9	77	W	3	1.3	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Concho, Texas	28.06	712.7	29.64	752.8	80	26.7	70	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.55	750.6	29.99	761.7	78	25.6	86	S	8	3.6	.....	0	2ks	.....	Calm	0	0	Clear	
Davenport, Iowa	29.23	742.4	29.83	757.7	69	20.6	95	NE	9	4.0	.....	.....	10n	.....	Calm	0.98	24.9	Light rain	
Deadwood, Dakota	25.54	648.7	.....	.....	49	9.4	100	Calm	0	0	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Decatur, Texas	28.82	732.0	29.91	759.7	85	29.4	72	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.15	740.4	29.90	759.4	79	26.1	82	SW	6	2.7	.....	2c	0	SW	.....	0	0	Fair	
Denver, Colorado	24.89	632.2	30.11	764.8	64	17.8	78	E	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Des Moines, Iowa	28.99	736.3	29.83	757.7	69	20.6	95	NE	2	0.9	.....	.....	10s	.....	NE	0.36	9.1	Cloudy	
Detroit, Michigan	29.24	742.7	29.87	758.7	68	20.0	70	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.36	694.9	29.54	750.3	69	20.6	90	SE	4	1.8	.....	.....	10s	.....	W	0.93	23.6	Cloudy	
Dubuque, Iowa	29.21	741.9	29.88	758.9	65	18.3	78	NE	2	0.9	.....	5k	1ks	N	Calm	0	0	Fair	
Duluth, Minnesota	29.14	740.1	29.78	756.4	68	20.0	65	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.15	740.4	29.84	757.9	81	27.2	74	SE	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	29.60	751.8	29.66	753.4	58	14.4	97	S	4	1.8	.....	.....	Fog	.....	S	0.04	1.0	Dense fog	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	96	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.21	665.7	.....	.....	71	21.7	80	NW	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Erie, Pennsylvania	29.20	741.7	29.87	758.7	73	22.8	81	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.22	742.2	29.84	757.9	65	18.3	68	NE	6	2.7	.....	.....	1ks	.....	W	0	0	Cloudy	
Florence, Arizona	28.41	721.7	30.01	762.2	77	25.0	69	W	6	2.7	.....	8ck	0	Calm	.....	0.73	18.5	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.09	713.5	29.93	760.2	47	8.3	85	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.21	640.3	30.17	766.3	63	17.2	89	SW	3	1.3	.....	0	0	.....	.....	2.50	63.5	Clear	
Fort Gibson, Indian Ter	29.38	746.2	29.88	758.9	86	30.0	58	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	66	18.9	64	S	4	1.8	.....	.....	8s	.....	Calm	0.38	9.7	Cloudy	
Fort Griffin, Texas	28.70	729.0	29.90	759.4	79	26.1	70	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.55	699.8	.....	.....	55	12.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.71	703.8	29.54	750.3	75	23.9	72	S	4	1.8	.....	5c	2s	Calm	S	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.75	755.6	79	26.1	62	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear	
Fort Stevenson, Dakota	28.22	716.8	.....	.....	49	9.4	85	W	9	4.0	.....	0	0	.....	.....	0.23	5.8	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.24	717.3	29.72	754.9	78	25.6	65	S	5	2.2	.....	2k	0	S	.....	0.40	10.2	Fair	
Galveston, Texas	29.97	761.2	30.01	762.2	84	28.9	75	S	6	2.7	.....	5ck	5ks	Calm	S	0	0	Cloudy	
Graham, Texas	28.86	733.0	29.86	758.4	80	26.7	70	S	2	0.9	.....	0	5ks	.....	S	0	0	Fair	
Grand Haven, Michigan	29.24	742.7	29.86	758.4	70	21.1	80	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.96	735.6	29.85	758.2	78	25.6	69	S	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.15	740.4	29.88	758.9	73	22.8	90	Calm	0	0	.....	.....	10s	.....	Calm	0.62	15.7	Cloudy	
Indianola, Texas	29.97	761.2	30.00	762.0	83	28.3	75	S	16	7.2	.....	8c	0	W	.....	0	0	Fair	
Jacksboro, Texas	28.72	729.6	29.77	756.1	86	30.0	58	S	8	3.6	.....	8c	0	E	.....	0	0	Fair	
Jacksonville, Florida	30.04	763.0	30.06	763.5	84	28.9	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.21	741.9	29.79	756.7	72	22.2	95	W	10	4.5	.....	.....	10n	.....	W	1.68	42.7	Light rain	
Key West, Florida	30.03	762.7	30.06	763.5	85	29.4	79	NE	2	0.9	.....	2k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.83	757.7	29.85	758.2	82	27.8	82	W	14	6.3	.....	5c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	30.01	762.2	29.96	761.0	76	24.4	82	SW	3	1.3	.....	5cs	1ks	SW	Calm	0	0	Fair	
La Crosse, Wisconsin	29.14	740.1	29.85	758.2	64	17.8	89	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	66	18.8	84	Calm	0	0	.....	1c	1s	W	Calm	0	0	Clear	
Laredo, Texas	29.49	749.0	29.81	757.2	84	28.9	47	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.02	737.1	29.81	757.2	76	24.4	77	N	3	1.3	.....	5cs	5ks	W	SW	0.03	0.8	Cloudy	
Little Rock, Arkansas	29.62	752.3	29.97	761.2	78	25.6	86	S	6	2.7	.....	0	1s	.....	Calm	0.47	11.9	Clear	
Los Angeles, California	29.50	749.3	29.84	757.9	62.0	16.7	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.86	745.7	29.89	759.2	76	24.4	77	S	3	1.3	.....	5cs	0	Calm	...	1.52	38.6	Fair	
Lynchburg, Virginia	29.27	743.4	29.81	757.7	82	27.8	59	W	6	2.7	.....	10ck	0	SW	.....	0	0	Cloudy	
Madison, Wisconsin	29.91	754.3	29.85	758.2	67	19.4	79	S	2	0.9	.....	5c	0	W	.....	0	0	Fair	
Marquette, Michigan	29.18	741.1	29.84	757.9	64	17.8	68	NE	6	2.7	.....	.....	10ks	.....	NE	0	0	Cloudy	
Mason, Texas	28.35	720.1	30.02	762.5	78	25.6	69	S	7	3.1	.....	2cs	0	S	.....	0	0	Fair	
Memphis, Tennessee	29.04	737.8	29.96	761.0	79	26.1	85	S	8	3.6	.....	2ck	5ks	W	SW	Inap.	Inap	Fair	
Milwaukee, Wisconsin	29.16	740.7	29.85	758.2	67	19.4	79	W	4	1.8	.....	8c;cs	Sm'e	Calm	.....	0	0	Cloudy	
Mobile, Alabama	30.03	762.5	30.07	763.8	78	25.6	82	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.83	757.7	30.06	763.5	77	25.0	90	SW	6	2.7	.....	2k	8ks	SW	SW	0.30	7.6	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.97	735.8	29.91	759.7	74	23.3	81	SW	4	1.8	... .	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Mt. Washington, N. H.	28.64	690.4	30.10	762.0	47	8.3	100	NW	10	22.4	.....	.....	Fog	.....	NW	0.02	0.5	Foggy	
Nashville, Tennessee	29.43	747.5	29.93	760.2	84	28.9	71	S	1	0.4	....	1c	Haze	Calm	Calm	0	0	Clear.....	
New Haven, Connecticut	29.70	754.4	29.81	757.2	77	25.0	77	NW	2	0.9	... .	2ck	0	Calm	.....	0	0	Fair	
New London, Connecticut	29.76	755.9	29.80	756.9	78	25.6	78	Calm	0	0	.....	3ck	8s;fg	NW	Calm	0	0	Fair.....	
New Orleans, Louisiana	30.01	762.2	30.07	763.8	80	26.7	82	SW	1	0.4	.....	0	1ks	....	Calm	1.48	37.6	Clear.	
Newport, Rhode Island	29.75	755.6	29.80	756.9	73.5	23.1	93	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.	
New York, New York	29.66	753.4	29.83	757.7	79	26.1	73	NW	5	2.2	.....	2cs	Haze	W	Calm	0	0	Fair.....	
Norfolk, Virginia	29.84	757.9	29.90	759.4	83	28.3	79	W	6	2.7	.. ....	5ck	0	NW	.....	0.20	5.1	Fair.....	
North Platte, Nebraska	27.09	688.1	29.67	753.1	63	17.2	83	N	12	5.4	.....	0	2ks	W	Calm	0.01	0.3	Fair	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	54.0	12.2	87	N	2	0.9	.....	0	1s	.....	Calm	0	0	Clear.....	
Omaha, Nebraska	28.74	730.0	29.78	756.4	69	20.6	95	N	6	2.7	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog....	
Oswego, New York	29.54	750.3	29.84	757.9	69	20.6	75	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pembina, Dakota	28.94	735.1	29.75	755.6	52	11.1	93	W	11	4.9	.....	0	0	....	.....	0.06	1.5	Clear.....	
Philadelphia, Pa	29.80	756.9	29.85	758.2	79	26.1	74	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona	28.69	728.7	30.40	772 1	78	25.6	73	NE	2	0.9	.....	2ck	0	Calm	.....	0.57	14.5	Fair.....	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	32	0.0	100	NE	2	0.9	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy.....	
Pilot Point, Texas	29.07	738.4	29.84	757.9	87	30.6	72	SE	5	2.2	.....	8k	2s	S	SE	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	57	13.9	69	NW	2	0.9	.....	0	2s	.....	Calm	0.14	3.6	Fair..	
Pittsburg, Pennsylvania	29.13	739.9	29.90	759.4	73	22.8	85	W	2	0.9	.....	.....	Sm'e	.....	Calm	0	0	Smoky.....	
Port Huron, Michigan	29.22	742.2	29.86	758.4	68	20.0	60	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear.....	
Portland, Maine	29.68	753.9	29.72	754.9	75	23.9	72	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon	29.94	760.5	30.02	762.5	67.0	18.9	89	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.78	629.4	30.14	765.5	67	19.4	50	SW	.....	.....	1	8cs	0	N	.....	0.11	2.8	Cloudy.....	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	81	27.2	78	NE	6	2.7	.....	2cs	0	SW	.....	0.22	5.6	Clear.....	
Red Bluff, California	29.44	747.8	29.78	756.4	70	21.1	36	SE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
Rio Grande City, Texas	29.75	755.6	29.96	761 0	81	27.2	78	SE	6	2.7	.....	2c	2s	Calm	Calm	0	0	Fair	
Rochester, New York	29.26	743.2	29.84	757.9	71	21.7	62	W	6	2.7	.....	0	Haze	.....	.....	Inap.	Inap.	Clear.....	
Roseburg, Oregon	29.46	748.3	30.03	762.7	52	11.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sacramento, California	29.70	754.4	29.78	756.4	60	15.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.31	744.5	29.85	758.2	76	24.4	77	NW	4	1.8	.....	2k	8s	Calm	Calm	0.24	6.1	Cloudy.....	
St. Marks, Florida	30.00	762.0	30.08	764.0	78	25.6	91	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
St. Paul, Minnesota	28.99	736.3	29.77	756.1	69	20.6	79	E	2	0.9	.....	2ck	0	W	.....	0	0	Fair	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	67	19.4	42	Calm	0	0	.....	7c	0	E	.....	0	0	Fair.....	
San Antonio, Texas	29.28	743.7	29.84	757.9	78	25.6	82	SE	4	1.8	.....	5cs	0	S	.....	Inap	Inap.	Fair.....	
San Diego, California	29.79	756.7	29.86	758.4	65	18.3	84	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.26	742.9	29.89	759.2	73	22.8	81	NW	5	2.2	.....	5c	Haze	W	Calm	0	0	Fair.....	
Sandy Hook, New Jersey	29.80	756.9	29.83	757.7	82	27.8	71	W	10	4.5	.....	1ck	0	W	.....	0	0	Clear.....	
San Francisco, California	29.77	756.1	29.83	757.7	64	12.2	87	SW	5	2.2	.....	0	5s	.....	SW	0	0	Fair.....	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	61	16.1	71	Calm	0	0	.....	5k	0	NW	.....	0	0	Fair.....	
Savannah, Georgia	29.94	760.5	30.03	762.7	86	30.0	68	W	6	2.7	.....	1c	0	E	.....	0	0	Clear...	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	78	25.6	91	S	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.97	761.2	30.01	762.2	83	28.3	91	W	12	5.4	.....	2c	2ks	Calm	W	0	0	Fair.....	
Socorro, New Mexico	25.39	644.9	29.45	748.0	70	21.1	75	Calm	0	0	.....	2ck	2s	SE	Calm	0.22	5.6	Fair...	
Springfield, Ill	29.27	743.4	29.91	759.7	78	25.6	82	W	2	0.9	.....	.....	10n	.....	W	0.68	17.3	Heavy rain.	
Springfield, Massachusetts	29.69	754.1	29.81	757.2	76	24.4	73	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	26.92	683.8	29.92	760.0	71	21.7	11	SE	4	1.8	.. ....	0	0	.....	.....	0.50	12.7	Clear..... ...	
Thatcher's Island, Mass	29.73	755.1	29.78	756.4	77	25.0	86	W	9	4.0	.....	5k	Sm'e	SW	.....	0	0	Fair.....	
Toledo, Ohio,	29.23	742.4	29.88	758 9	68	20.0	60	W	1	0.4	.....	5c	Haze	W	Calm	0	0	Fair.....	
Tucson, Arizona	27.47	697.7	30.02	762.5	79	26.1	69	SE	3	1.3	.....	0	5s	.....	Calm	0	0	Fair.....	
Umatilla, Oregon	29.56	750.8	30.04	763.0	64.0	17.8	53	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.04	737.6	29.82	757.4	79	26.1	78	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	77	25.0	86	SW	4	1.8	.....	.....	10s	.....	Calm	1.02	25.9	Cloudy.....	
Virginia City, Montana	24.37	619.0	29.85	758.2	55	12.8	39	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.41	747.0	29.77	756.1	68.6	14.7	68	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.79	756.7	29.90	759.4	70	26.1	74	NW	7	3.1	.....	5cs	0	W	.....	0.20	5.1	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	81	N	.....	.....	2	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Wilmington, N. Carolina	29.98	761.5	30.06	763.5	83	28.3	75	SW	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Winnemucca, Nevada	25.63	651.0	29.99	761 7	49	9.4	37	W	4	1.8	.....	0	0	....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.75	755.6	29.79	756.7	71	21.7	100	W	12	5.4	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Yankton, Dakota	28.65	727.7	29.90	759.4	65	18.3	84	Calm	0	0	.....	10ck	0	W	.....	0	0	Cloudy.....	
Yuma, Arizona	29.64	752.8	29.79	756.7	86	30.0	68	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I.	30.02	762.5	30.07	763.8	84	28.9	79	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	81	27.2	87	NW	.....	.....	.....	8c	2s	Calm	.....	0	0	Hazy	James Gall.
Medellin, Colombia, S. A.*	25.25	641.3	.....	.....	66.0	18.9	85	Calm	.....	.....	0	3cs	1ks	.....	.....	0.14	3.6	.....	Thomas Herran.
Navassa, W. I.	29.92	760.0	30.00	762.0	85	29.4	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.01	762.2	30.01	762.2	82	27.8	79	SE	.....	.....	1	3c	0	E	.....	0.030	0.76	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	29.62	752.3	29.65	752.6	83	28.3	83	E	6	2.7	.....	2c	5	NE	.....	0.40	10.2	Clear.....	G. O. Gellich.
York Factory, B. A.	29.92	760.0	29.97	761.2	43.0	6.6	96	NE	9	4.0	.....	2k	4s	NE	NE	0	0.	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft.,* or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Grimn, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,080 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.550 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.80 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in.,or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡	.....	.....	83	28.3	87	NW	3	1.3	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.82‡	757.4‡	.....	.....	80	26.7	91	SW	.....	.....	2	.....	10n	.....	SW	0.12	3.0	.....	.....	Cloudy	
Adams, Mare I'd, Navy Yard, Cal.	29.84‡	757.9‡	.....	.....	69	15.0	98	SSW	.....	.....	2–3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alliance, N. 55° 35′, E. 18° 34′	29.90‡	759.4‡	.....	.....	67	19.4	74	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot, Yokohama, Japan	29.85‡	758.2‡	.....	.....	77	25.0	91	ENE	.....	.....	4	.....	10	.....	ENE	.....	.....	Smooth	.....	Rainy	
Colorado, New York, N. Y.	29.78‡	756.4‡	.....	.....	78	25.6	73	NW	8	3.6	.....	.....	5	.....	.....	0	0	.....	.....	Hazy	
Constitution, Navy Yard, Brooklyn, N.Y.	29.85‡	758.2‡	.....	.....	77	25.0	91	NNW	.....	.....	1	.....	5	.....	Calm	.....	.....	.....	.....	Fair	
Enterprise, Kiel, Germany.	29.75‡	758.6‡	.....	.....	70	21.1	95	W	.....	.....	2	.....	8	.....	W	.....	.....	Smooth	.....	Cloudy	
Essex, S. 32° 13′, W. 48° 01′	30.11‡	764.8‡	.....	.....	56	13.3	??	SE	.....	.....	6	.....	10	.....	NW	.....	.....	Rough	SSE	Cloudy	
Franklin, Norfolk, Va.	29.89‡	759.2‡	.....	.....	80	26.7	78	WSW	3	1.3	.....	.....	5	.....	WSW	0.1	3.	.....	.....	Fair	
Hartford Rio de Janeiro, Brazil	30.12‡	765.0‡	.....	.....	72	22.2	71	NNW	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.83‡	757.7‡	.....	.....	61	16.1	82	SW	7.2	3.2	.....	.....	5	.....	SW	0	0	.....	.....	Cloudy	
Kearsarge, Charlottetown, Prince Edward Island	29.76‡	755.9‡	.....	.....	66	18.9	84	W	.....	.....	3–4	.....	10	.....	W	.....	.....	Smooth	.....	Hazy	
Michigan, Chicago, Ill.	29.77‡	756.1‡	.....	.....	72	22.2	90	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Shanghai, China	29.74‡	755.4‡	.....	.....	83	28.3	91	SSW	.....	.....	2	.....	2	.....	SSW	.....	.....	.....	.....	Fair	
Monongahela, Yokohama, Japan	29.84‡	757.9‡	.....	.....	79	26.1	82	ENE	.....	.....	4	.....	n	.....	.....	Light	Light	.....	.....	Thunder-storm	
New Hampshire, Port Royal, S. C.	30.01‡	762.2‡	.....	.....	82	27.8	79	SW	13	5.8	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Onward, Callao, Peru	29.99‡	761.7‡	.....	.....	62	16.7	88	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.74‡	755.4‡	.....	.....	81	27.2	96	S	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	80	26.7	91	W	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.99‡	761.7‡	.....	.....	61	16.1	94	NW	3	1.3	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Portsmouth, N. H.	29.75‡	755.6‡	.....	.....	73	22.8	76	W	.....	.....	1	.....	5	.....	W	0	0	Smooth	.....	Fair	
Powhatan, N. 28° 48′, W 80° 23′	30.07‡	763.6‡	.....	.....	80	26.7	87	S	.....	.....	3	.....	8	.....	S	0	0	Long	SE	Cloudy	
Quinnebaug, N. 39° 08′, E. 19° 35′	29.95‡	760.7‡	.....	.....	82	27.8	75	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Ranger, Nagasaki, Japan	30.11‡	764.8‡	.....	.....	86	30.0	92	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.85‡	758.2‡	.....	.....	77	25.0	100	ENE	.....	.....	2	.....	10	.....	.....	0.11	2.8	Smooth	.....	Thunder-storm	
Rio Bravo, Brownsville, Texas	29.95‡	760.7‡	.....	.....	81	27.2	96	SSE	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	29.91‡	759.4‡	.....	.....	78	25.6	82	NW	.....	.....	1	.....	8	.....	.....	0.82	20.8	.....	.....	Hazy	
Saratoga, New Bedford, Mass.	29.80‡	756.9‡	.....	.....	74	23.3	95	SW	.....	.....	4	.....	8	.....	E	0	0	.....	.....	Foggy	
St. Louis, League Island, Pa	29.85‡	758.2‡	.....	.....	79	26.1	95	N	4	1.8	.....	.....	2	.....	WNW	0.07	1.8	.....	.....	Clear	
Trenton, Grave's End, Eng.	29.77‡	756.1‡	.....	.....	65	18.3	73	WSW	.....	.....	2–3	.....	5	.....	ESE	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.85‡	758.2‡	.....	.....	58	14.4	94	SSW	.....	.....	3	.....	4	.....	Calm	0	0	Smooth	.....	D. clouds	
Vandalia, Beaufort river, S. C.	30.01‡	762.2‡	.....	.....	80	26.7	87	W	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Wabash, Boston, Mass.	29.76‡	755.9‡	.....	.....	78	25.6	73	WSW	6	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 26° 14′, W. 55° 40′	30.11‡	764.8‡	.....	.....	84	28.9	53	SSE	.....	.....	2	.....	5	.....	SE	.....	.....	Smooth	SE	Fair	
Wyoming, Constantinople, Turkey	29.96‡	761.0‡	.....	.....	78	25.6	46	NNE	.....	.....	4–6	.....	5	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima, N. 35° 31′, W. 121° 58′	†	29.92‡	760.0‡	60	15.6	88	NW			4		10		Calm	0	Mod'ate	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehorn.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Cannon.
S. S. Granada, Capt. Austin,																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.20‡	767.1‡				SE			4				SE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Parry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 34° 11′, E. 137° 52′	†	29.84‡	757.9‡	83	28.3	100	W			4	5c				0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 31° 02′, E. 132° 31′		29.83‡	757.7‡	82	27.8	87	Calm			0		0				Smooth		Blue sky	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 52′, W. 7° 56′		30.00‡	762.0‡	59.0	15.0	76	NW			5		5?		NW	0	Mod'ate	NW	Cloudy?	S. Rislus, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md.		29.80‡	756.9‡				W			2		5?		W				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 51', W. 51° 29'		29.89‡	759.2‡	54	12.2	??	SW			7		8		SW	Heavy	Light	SW	Cloudy	Captain R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 45° 30', W. 12° 00'		0.20‡	767.1‡	62.5	16.9	72	W			2		3				4	NW	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

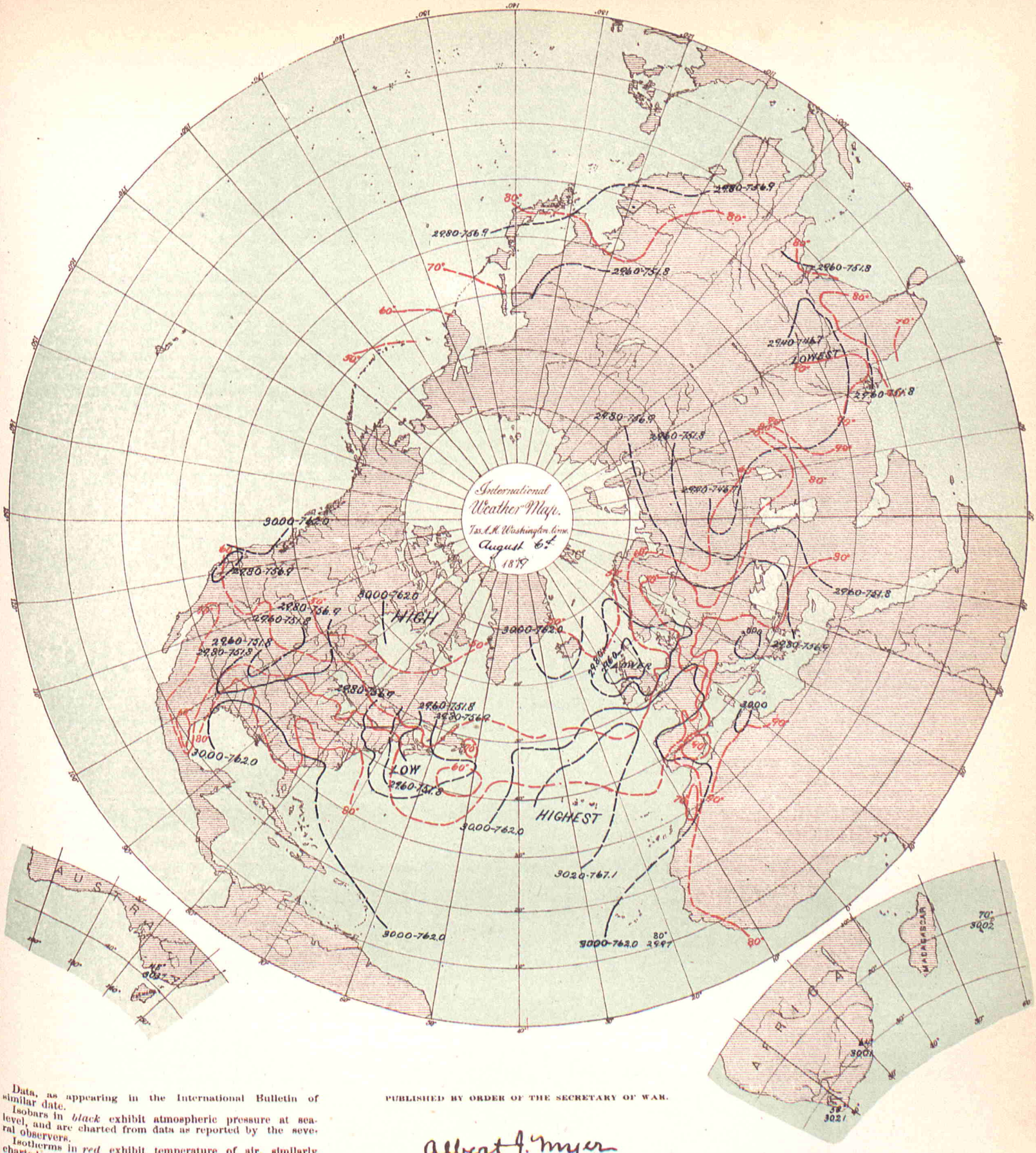
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near lar. stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 7, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.99	761.8	68.2	20.1	86	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.04	762.9	82.4	28.0	76	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.01	762.2	81.3	27.4	69	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	29.99	761.8	87.4	30.8	71	N	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	30.03	762.7	91.0	32.8	16	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Herbin.
Geriville	.....	.....	30.04	762.9	94.5	34.7	26	E	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	73.0	22.8	53	SSW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Biskra	.....	.....	30.00	762.1	95.4	35.2	31	E	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Bertrand.
.....	.....	.....	29.96	761.0	102.7	39.3	24	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.84	745.3	29.86	758.5	62.4	26.0	63	NE	.....	.....	1	.....	2	.....	.....	0.047	1.2	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.9	29.92	760.0	64.8	18.2	80	W	6.9	3.1	.....	.....	10	.....	.....	0.787	20.0	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.97	735.7	29.81	757.2	68.0	20.0	76	NW	.....	.....	5	.....	10ks	.....	.....	0.335	8.50	.....	Julius Mikolik.
Gratz	28.69	728.8	29.90	759.4	72.8	22.4	70	NW	.....	.....	3	.....	7	.....	.....	0.051	1.3	.....	Andreas Rospini.
Hermannstadt	28.42	721.8	29.74	755.4	86.0	30.0	41	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.71	729.2	30.03	762.7	62.4	16.9	82	WSW	.....	.....	2	.....	10	.....	.....	0.669	17.5	.....	Prof. C. Wagner.
Lemberg	28.78	730.9	29.71	754.6	75.2	24.0	63	SW	.....	.....	1	.....	7	.....	.....	0.165	4.2	.....	Dr. T. Stanecki.
Pola	29.77	756.2	29.87	758.8	82.0	27.8	68	W	.....	.....	1	.....	7	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.35	745.4	29.79	756.6	86.4	30.2	48	SW	.....	.....	4	.....	5	.....	.....	0.413	10.5	.....	G. Sanctjohanzer.
Szegedin	29.56	750.9	29.83	757.6	78.1	25.6	73	.....	.....	.....	.....	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.78	756.4	29.88	759.0	84.0	28.9	65	WSW	.....	.....	1	.....	3	.....	.....	0.134	3.4	.....	P. Busin.
Vienna	29.30	744.1	30.04	763.1	64.8	18.2	78	W	.....	.....	4	.....	10	.....	.....	0.311	7.9	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.45	748.0	29.55	750.6	58.5	14.7	.....	NW	21	9.4	.....	.....	6	.....	.....	0.020	0.51	D. clouds....	W. Boswell.
Ardrossan	29.65	753.1	29.67	753.6	54	12.2	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	Wm McNeil &G.Carrick
Armagh, Observatory	29.58	751.3	29.80	756.9	56.2	13.4	.....	W	5	2.2	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	55.4	13.0	.....	W	32	14.3	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.77	756.1	50.3	10.2	.....	WSW	42	18.8	.....	.....	10	.....	.....	.....	.....	Raining.....	Thomas Mackereth.
Bradford, Yorkshire	29.37	746.0	29.76	755.9	53.8	12.1	.....	NW	.....	.....	6	.....	10	.....	.....	0.13	3.3	Overcast..	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	84	28.9	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.72	754.9	29.81	757.2	66.0	18.9	.....	W	.....	.....	3	.....	7	.....	.....	Blank	Blank	D. clouds....	H. Todd.
Cardington	.....	.....	29.81	757.2	64.0	17.8	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	66.2	19.0	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R. E.
Donaghadee	29.72	754.9	29.77	756.1	57	13.9	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.88	758.9	29.90	759.4	63	17.2	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	½clouded....	J. Costello.
Falmouth, Observatory	29.69	754.1	29.91	759.7	56.4	13.6	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Rain & fog...	The Staff.
Fort Napier (Natal)	27.60	701.0	29.90	759.4	58.3	14.6	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.80	756.9	30.03	762.7	75	23.9	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.79	756.7	59	15.0	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.06	763.5	82.8	28 2	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.44	747.8	29.64	752.8	61.7	16.5	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.79	756.7	29.89	756.9	62	16.7	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	63.6	17.6	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Cloudy.....	The Staff, for G.B.Airy.
Guernsey	29.77	756.1	29.99	761.7	61	16.1	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.97	761.2	30.09	764.3	64	17.8	.....	SW	.....	.....	2	.....	10	.....	.....	0.09	2.3	Light rain...	M. P. Moyle.
Holyhead	29.81	757.2	29.83	757.7	58	14.4	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.75	755.6	30.04	763.0	60.0	15.6	.....	SW	.....	.....	5	.....	10	.....	.....	Blank	Blank	Overcast.....	J. Fisher.
Kew, Observatory	29.84	757.9	29.88	758 9	62.2	16.8	.....	WSW	15	6.7	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.54	750.3	29.79	756.7	61.1	16.2	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29 85	758.2	29.92	760.0	69.4	31.9	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.60	749.3	29.69	751.6	55	12.8	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.03	762.7	87.5	30.8	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.61	752.1	29.80	756.9	64.2	17.9	.....	SW	.....	.....	5	.....	7knckjd	.....	W	0.170	4.32	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.28	743.7	29.79	756.7	63.1	17.3	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.85	758.2	62	16.7	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.86	758.4	29.94	760.5	58.3	14.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.80	756.9	29 91	759.7	64	17.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Wm. Kennedy.
Saint Ann's Head	29.71	754.6	29.87	758.7	56	13.3	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.57	751.1	54	12.2	.....	N	14	6.3	.....	.....	10	.....	.....	.....	.....	Foggy.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.73	755.1	29.79	756.7	88.0	31.1	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.52	749.8	29.80	756.9	56.7	13.7	.....	W	.....	.....	3	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.66	753.4	29.69	754 1	60.0	15.6	81	W	.....	.....	4	.....	7	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.77	756.1	56.8	13.8	.....	SW	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	61.2	16.2	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.90	759.4	29.91	759.7	62	16.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W.Newcombe.
Valencia, Observatory	29.80	756.9	29.83	757.7	61.4	16.3	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.36	771.1	30.40	772.1	61.4	16.3	.....	S	14.4	6.4	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.63	752.6	64.2	17.9	.....	NW	.....	.....	2	.....	7k	.....	.....	0.10	2.5	Fine.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.07	763.7	70.3	21.3	65	SE	8.0	3.6	.....	0	2	.....	.....	0	0	Fine.....	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	47.0	8.3	85	S	12	5.4	.....	.....	2	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.: Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 15′, E. 26° 30′	.....	.....	29.80‡	756.9‡	78.5	25.8	.....	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	Blue sky.....	Capt.W.J.L. Wharton.
Atmosphere, N. 48° 55′ W. 25° 00′	.....	.....	29.86	758.4	65	18.3	.....	SSE	.....	.....	1	.....	10	.....	.....	6	WNW	Drizzling.....	.....
Barque Commewyne, N. 47° 10′, W. 33° 30′	.....	.....	29.75‡	755.6‡	64.7	18.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Foggy	Capt. A. Buchan.
Gordon Castle, N. 42° 25′, W. 51° 20′	.....	.....	29.66	753.4	73	22.8	.....	SW	.....	.....	6	.....	10	.....	.....	3	SW	Raining.....	.....
German Brig "W. von Freeden" N. 35° 50′, W. 66° 40′	.....	.....	29.92	760.0	83	28.3	.....	W	.....	.....	5	.....	5	.....	.....	3	W	D. clouds....	Capt. H. v. Freeden.
Theophane, N. 23° 10′, W. 32° 10′	.....	.....	30.17‡	766.3‡	76.2	24.6	.....	NNE	.....	.....	5	.....	9	.....	.....	.....	.....	Showery.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algerin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.23	666.2	29.95	760.7	67.6	19.8	95	SE	.....	.....	2	10s	.....	NE	.....	0.2	5.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	756.0	29.81	757.2	66.6	19.2	69	SW	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	29.75	755.6	29.77	756.1	61.9	16.6	70	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.82	757.5	29.87	758.6	49.3	9.6	89	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.00	761.9	30.04	763.0	52.2	11.2	78	NW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.78	756.4	29.82	757.3	53.4	11.9	68	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	29.63	752.6	29.74	755.4	62.4	16.9	75	S	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.53	750.1	30.08	764.1	65.1	18.4	67	SW	.....	.....	2	.....	10kn	.....	SW	0.08	2.	Covered	Colligneu, Director.
Amiens, Normal School	29.85	758.2	29.96	761.0	65.1	18.4	67	SW	.....	.....	3	.....	8	.....	NE	0	0	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.73	755.1	29.98	761.6	60.3	15.7	62	W	.....	.....	5	.....	.....	.....	W	0.028	0.7	.....	Klein, Commandant.
Avignon, Normal School	29.92	760.0	30.00	762.0	81.3	27.4	27	N	.....	.....	5	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.53	750.1	30.08	764.0	65.3	18.5	53	NW	.....	.....	1	.....	8kn	.....	W	0	0	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.74	755.4	30.00	761.9	64.8	18.2	55	SW	.....	.....	2	.....	8	.....	W	0.226	5.75	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.24	742.6	30.11	764.9	66.0	18.9	61	SW	.....	.....	1	.....	5	SW	.....	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.27	743.4	30.20	767.1	69.4	20.8	50	W	.....	.....	3	.....	kn	W	NW	0	0	.....	Mariot, Director.
Bourges, Normal School	29.66	750.7	30.10	764.5	67.6	19.8	60	WSW	.....	.....	3	.....	k	WSW	WSW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.72	755.0	29.97	761.2	61.2	16.2	85	SW	.....	.....	3	.....	10	.....	SW	0.049	1.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.69	754.2	30.10	764.4	75.2	24	39	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.95	760.6	30.02	762.5	64.4	18	67	SW	.....	.....	1	.....	10	.....	W	0	0	Covered	M. Bletrin, Director.
Chartres, Normal School	29.80	749.4	30.05	763.2	60.4	15.8	45	SW	.....	.....	5	.....	10	.....	SW	0.059	1.5	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.2	29.96	761.0	71.4	21.9	50	WSW	.....	.....	1	.....	8	WSW	WSW	.....	.....	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.78	731.1	30.10	764.5	70.3	21.3	41	.....	.....	.....	.....	.....	.....	.....	WNW	0	0	.....	Alluard, Director.
Commercy, Normal School	29.22	742.2	30.07	763.6	62.8	17.1	72	W	.....	.....	3	.....	5kn	W	W	0.091	2.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.3	30.05	763.3	78.8	26	43	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.31	744.5	30.06	763.4	71.2	21.8	69	NW	.....	.....	1	.....	2ck	.....	N	0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.90	759.4	30.11	764.8	68.7	20.4	59	WNW	.....	.....	1	.....	5	.....	WSW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.78	756.4	30.09	764.2	62.6	17	74	SW	.....	.....	1	.....	5	.....	W	0.246	6.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.21	741.8	30.10	764.4	66.4	19.1	57	W	.....	.....	1	.....	2k	W	W	0.126	3.2	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.00	762.0	30.10	764.6	64.0	17.8	72	SSW	.....	.....	3	.....	.....	.....	S	0	0	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.48	748.7	30.08	764.0	70.5	21.4	44	NW	.....	.....	1	.....	1	.....	SE	0	0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.69	754.1	29.95	760.8	80.2	26.8	33	NW	.....	.....	5	.....	1	.....	NW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.99	736.4	30.01	762.3	63.5	18.6	75	E	.....	.....	3	10c	.....	E	E	.....	.....	Covered	Barbier, Director.
Mont-Louis	24.96	634.0	30.28	769.0	66.6	19.2	68	NE	29.8	13.3	.....	.....	.....	.....	N	0	0	.....	M. Cave
Nice	29.85	758.2	29.88	759.0	79.6	26.6	66	E	.....	.....	5	.....	1	E	E	0	0	Hazy	M. Boissiéré, Director.
Nismes, Normal School	29.79	756.7	29.98	761.5	82.0	27.8	54	NW	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.78	756.3	63.3	17.4	61	WSW	.....	.....	2	.....	10	.....	WSW	Inap.	Inap.	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.70	576.6	.....	.....	59.4	15.2	.....	SW	.....	.....	1	.....	1	.....	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.97	761.2	30.07	763.8	76.3	24.6	45	NW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.30	642.7	.....	.....	45.3	7.4	74	W	.....	.....	2	.....	8	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.11	764.8	30.14	765.6	72.5	22.5	55	W	.....	.....	1	.....	5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.94	760.4	30.02	762.6	60.8	16.0	74	WSW	.....	.....	2	.....	5	.....	W	0.425	10.8	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.99	761.7	30.02	762.4	64.2	17.9	62	SW	.....	.....	3	.....	8	WSW	WSW	0.118	3.00	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.1	30.06	763.4	63.3	17.4	62	SW	.....	.....	2	.....	10	.....	WSW	.....	.....	.....	E. Renou, Director.
Tarbes, Normal School	29.13	740.0	30.19	766.9	68.5	20.3	87	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.46	748.2	30.18	766.6	69.4	20.8	49	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.89	759.1	30.08	764.1	68.5	20.3	47	SW	.....	.....	3	.....	10	.....	W	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.56	750.9	30.06	763.4	62.6	17.0	59	W	.....	.....	3	.....	.....	.....	.....	0.004	0.10	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.39	746.5	30.08	763.9	75.6	24.2	51	NW	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.92	759.9	29.95	760.6	72.3	22.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.33	110.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.78	756.4	29.85	757.0	82.4	28.0	87	Calm	0	0	.....	.....	6k	.....	W	0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 6,204.8 ft., Pic du Midi, (Summit, 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.2	29.98	761.6	68.0	20.0	47	W	.....	.....	6	.....	6	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.74	755.4	29.91	759.6	71.6	22.0	43	W	.....	.....	3	.....	6	.....	.....	0.110	2.8	Raining	Prof. Dr. Arndt.
Breslau	29.41	746.9	29.93	760.3	67.1	19.5	64	NW	.....	.....	2	.....	3	.....	.....	0.996	25.29	.....	Royal University Observ'y.
Carlsruhe	29.59	751.6	30.01	762.3	69.1	20.6	56	SW	.....	.....	2	.....	6	SW	.....	0 008	0.2	.....	Albert Sens.
Cassel	29.37	746.0	29.98	761.4	69.1	20.6	49	WSW	.....	.....	2	.....	5	.....	.....	0.073	1.86	.....	Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	65.3	18.5	54	SW	.....	.....	5	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.85	758.1	63.6	17.6	75	W	.....	.....	2	.....	10	.....	.....	0.205	5.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.7	29.99	761.8	68.7	20.4	.....	WSW	.....	.....	2	.....	6	.....	.....	0.035	0.9	.....	Physical Society.
Freienwalde on the Oder	29.85	758.2	29.89	759.2	71.4	21.9	54	NW	.....	.....	4	.....	8k	NW	.....	0.25:	6.4	.....	Dr. Assmann.
Friedrichshafen	28.63	727.2	30.03	762.7	66.6	19.2	59	SW	.....	.....	4	.....	3	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.81	757.1	29.87	758.8	64.4	18.0	68	WSW	.....	.....	4	.....	7k	.....	.....	0.024	0.6	Fair	Captain F. Hegemann
Kiel	29.82	757.3	29.83	757.7	67.3	19.6	56	SW	.....	.....	4	.....	1	.....	.....	0.012	0.29	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.58	751.3	29.66	753.3	79.7	26.5	56	E	.....	.....	3	.....	6	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.84	758.0	69.2	15.1	.....	Calm	.....	.....	0	.....	4	.....	.....	0.09:	2.5	.....	H. Müller.
Leipsic Observatory	29.54	750.2	29.95	760.6	69.8	21 0	65	WSW	.....	.....	3	.....	8	W	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.66	753.4	29.71	754.6	79.3	26.3	43	SE	.....	.....	2	.....	1ck	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.24	717.3	30.11	764.7	66.4	19 1	60	SW	.....	.....	3	.....	5	SW	.....	0.709	18.0	.....	Dr. C. Lang.
Neufahrwasser	29.75	755.6	29.76	756.0	56.8	13.8	87	NW	.....	.....	5	.....	10	.....	.....	1.039	26.4	Raining	A. Lothes.
Posen	29.57	751.0	29.85	758.2	59.7	15.4	89	WNW	.....	.....	5	.....	10	.....	.....	0.614	15.6	.....	Dr. Magener.
Strassburg (in Alsace)	29.51	749.6	30.05	763.2	69.1	20.6	50	Calm	.....	.....	0	.....	10	SW	.....	0.081	2.05	.....	Imp. University Observatory.
Stuttgart	29.08	738.5	29.98	761.6	69.4	20.8	35	W	.....	.....	5	.....	8	W	.....	0.008	0.2	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.1	30.01	762.2	64.8	18.2	52	W	7	3	.....	.....	7k	.....	W	0.268	6.8	.....	T. Hopfner.
Wustrow	29.85	758.3	29.88	758.9	62.1	17.7	73	W	.....	.....	3	.....	7s	.....	.....	0	0	.....	E. Schulz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:8 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.4	29.84	757.8	91.2	32.9	.....	NE	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.45	748.0	29.50	749.3	82.3	27.9	72	W	12.0	5.4	.....	.....	5	W	.....	0	0	D. clouds	
Deesa	29.09	738.8	29.56	750.8	77.3	25.2	93	SSW	13.2	5.9	.....	.....	10	.....	SW	0.33	8.4	Showery	
Bombay	29.65	753.1	29.69	754.1	80.4	26.9	89	W	23.0	10.3	.....	.....	10	.....	WNW	0.06	1.5	Overcast	
Poona	27.85	707.4	29.72	754.8	73.0	22.8	90	WSW	17.0	7.6	.....	.....	10	.....	WSW	0.74	18.8	Drizzling	
Lahore	28.74	729.9	29.44	747.9	98.2	36.8	42	Calm	3.1	1.4	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.24	692.0	29.81	757.1	69.7	20.9	90	W	14.0	6.3	.....	.....	10	W	W	0.92	23.4	Overcast	
Roorkee	28.63	727.2	29.51	749.5	86.2	30.1	78	SW	3.1	1.4	.....	.....	8	.....	.....	0.04	1.0	D. clouds	
Agra	28.89	733.7	29.44	747.8	83.7	28.7	85	E	.....	.....	.....	.....	9	.....	E	0	0	D. clouds	
Nagpur	28.57	725.6	29.60	751.9	78.7	25.9	85	SW	8.8	3.9	.....	.....	8	.....	E	0.20	5.1	D. clouds	
Lucknow	29.15	740.3	29.52	749.7	84.5	29.2	79	E	2.1	0.9	.....	.....	10	.....	.....	0.36	9.1	Overcast	
Allahabad	29.22	742.1	29.53	749.9	84.1	28.9	86	Calm	2.1	0.9	.....	.....	10	.....	.....	0.01	0.3	Drizzling	
Patna	29.35	745.4	29.53	749.9	85.0	29.4	84	NE	0.9	0.4	.....	.....	8	NE	NE	0.23	5.8	D. clouds	
Hazaribagh	27.56	699.9	29.55	750.6	77.6	25.3	87	Calm	6.1	2.7	.....	.....	10	.....	.....	0.58	14.7	Raining	
Cuttack	29.53	750.2	29.62	752.2	83.0	28.3	73	SSW	2.0	0.9	.....	.....	9	.....	.....	0	0	D. clouds	
Calcutta (Alipore)	29.56	750.8	29.58	751.3	80.0	26.7	96	SSE	4.0	1.8	.....	.....	10	.....	S	.....	.....	Showery	
Goalpara	29.17	740.8	29.55	750.4	84.9	29.4	77	Calm	2.7	1.2	.....	.....	1	.....	.....	0.01	0.3	D. clouds	
Chittagong	29.55	750 5	29.64	752.6	78.7	25.9	95	SE	6.6	3.0	.....	.....	10	.....	.....	0.02	0.5	Drizzling	
Sibsagar	29.22	742 3	29.55	750.6	87.0	30.6	83	WSW	2.3	1.0	.....	.....	10	W	W	0	0	D. clouds	
Jubbulpore	28.18	715.8	29.54	750.4	76.5	24.7	93	SW	5.3	2.4	.....	.....	10	.....	S	0.35	8.9	Drizzling	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper 0—10.	Lower 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.47	748.5	29.86	758.4	84.2	29.0	44	SW	1.3	0.6	.....	.....	5	.....	.....	0.268	6.8	.....	Prof. Giovanni Clodig.
Milan	29.37	745.9	29.86	758.4	82.2	27.9	50	WSW	.....	.....	4	.....	4	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.76	755.8	29.86	758.5	84.7	29.3	48	SW	4.3	1.9	.....	.....	5	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.60	736.5	29.86	758.4	79.9	26.6	50	NE	1.8	0.8	.....	.....	4	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.72	754.9	29.90	759.5	77.7	25.4	67	SE	15.0	6.7	.....	.....	0?	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.02	711.7	29.84	758.0	78.1	25.6	55	WNW	.....	.....	2	.....	3	SE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.4	29.86	758.5	81.5	27.5	61	NE	12.5	5.6	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.67	753.6	29.91	759.8	88.7	31.5	39	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.86	758.5	29.95	760.6	85.5	29.7	45	SW	4.9	2.2	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.6	29.96	760.9	86.2	30.1	47	SW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.2	29.90	759.4	88.3	31.3	26	ESE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.66	738.2	29.91	759.6	91.0	32.8	58	NW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.76	756.0	29.95	760.7	89.2	31.8	38	SE	.....	.....	2	.....	2	S	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.73	755.2	29.98	761.4	82.6	28.2	52	E	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.3	29.93	760.1	89.1	31.7	49	SSE	4.9	2.2	.....	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	747.9	30.00	762.0	84.6	29.2	68	WSW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.78	756.4	29.80	756.9	81.7	27.6	78	WSW	7.2	3.2	.....	.....	5ck	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.67	753.6	29.86	758.4	80.1	26.7	83	SSW	5.2	2.3	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.65	753.1	29.72	754.9	75.4	24.1	97	SSW	3.3	1.5	.....	.....	10m	.....	.....	0.180	4.57	Light rain	The Staff.
Wakayama	29.72	754.9	29.77	756.1	81.2	27.3	83	SW	1.6	0.7	.....	9ck	cs;s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	1	.....	8	.....	SE	0.54	13.8	Cloudy	P. Ceballos.
Guadalajara	25.11	637.6	30.11	764.7	59.9	15.5	79	NE	.....	.....	1	9k	0	NW	SE	0.54	13.8	Cloudy	Prof. L. Perez.
Leon	24.47	621.6	30.10	764.5	64.2	17.9	85	S	.....	.....	1	9k	0	NW	.....	0.14	3.6	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.06	763.4	58.1	14.5	83	Calm	0	0	.....	2c	7ck	.....	SE	0.04	1.1	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.3	15.7	92	Calm	.....	.....	0	1c	9kn	.....	.....	0.50	12.7	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.95	760.6	29.96	760.9	79.2	26.2	93	W	.....	.....	1	6	3	NE	NW	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.1	30.17	766.2	63.0	17.2	50	E	.....	.....	1	5	5	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel[illegible].
Zacatecas	22.59	573.8	30.16	766.0	56.1	13.4	91	Calm	.....	.....	0	4c	5k	Calm	SE	0.55	14.0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.49	596.6	30.21	767.2	56.3	13.5	83	E	0.4	0.2	.....	.....	7ck	.....	NE	0.74	18.9	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.69	754.1	29.98	761.4	77.7	25.4	88	SE	.....	.....	4	8c	1k	SE	Calm	0.09	2.3	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,550.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.8	29.91	759.8	64.0	17.8	.....	SW	.....	.....	5	.....	.....	.....	.....	0.091	2.3	.....	
Groningen	29.78	756.5	29.84	757.9	59.9	15.5	.....	SW	.....	.....	2	.....	.....	.....	.....	0.193	4.9	.....	
Helder	29.81	757.1	29.81	757.1	61.7	16.5	.....	SW	.....	.....	4	.....	.....	.....	.....	0.008	0.2	.....	
Hellevoetsluis	29.87	758.7	29.87	758.7	63.1	17.2	70	WSW	.....	.....	6	.....	.....	.....	.....	0.087	2.2	.....	
Utrecht	29.89	758.5	29.91	759.7	60.3	15.7	79	SW	.....	.....	5	.....	8	.....	.....	0.154	3.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.56	750.8	29.61	752.2	66.2	19.0	59	SE	8.5	3.8	.....	.....	3	.....	.....	0.039	1.0	.....	
Brönö	29.64	752.9	29.68	753.9	77.0	25.0	50	SSE	27	12	.....	.....	7	.....	.....	0	0	.....	
Christiania	29.59	751.5	29.73	755.1	67.5	19.7	61	S	9	4	.....	.....	10	.....	.....	0.343	8.7	.....	
Tromsö	29.81	757.1	29.85	758.2	59.4	15.2	58	NNE	18	8	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.08	764.0	30.26	768 7	74.8	23.8	83	W	9.8	4.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.9	29.97	761.2	90.5	32.5	22	SE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.04	763.1	30.15	765.3	73.9	23.3	73	SW	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.7	30.06	763.5	76.8	24 9	41	N	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.23	767.9	30.32	770.1	81.7	27.6	60	SSW	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.														Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.4	68.9	20.0	.....	NW	.....	.....	2	.....	3	.....	NW	1	NW	D clouds.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.00	762.0	75.9	24.4	.....	ENE	.....	.....	3	.....	9	.....	NE	3	NE	D. clouds.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, N. 8° 40', W. 19° 09'	.....	.....	30.02	762.4	77.0	25.0	.....	SW	.....	.....	3	.....	10	.....	SW	5	SW	Raining. 10 hr's rain-fall.	H. Mocudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.92	760.0	80.8	27.1	.....	ESE	.....	.....	2	.....	5	.....	ESE	2	SE	D. clouds.....	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.36	745.6	29.77	756.1	60.1	15.6	90	WNW	20	9	.....	.....	10n	.....	.....	.....	.....	Raining.....	Astronomical Obs.
Wilna	29.34	745.1	29.78	755.2	79.3	26.3	55	SSE	2	1	.....	.....	6	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.59	751.6	29.82	757.4	78.6	25.9	53	ESE	7	3	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.85	758.2	29.87	758.6	72.3	22.4	44	ESE	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.11	739.3	29.71	754.5	78.1	25.6	57	NE	9	4	.....	.....	4k;cks;	ckn].....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.7	29.78	756.5	93.67	34.27	39	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.3	29.84	757.8	78.1	25.6	57	WNW	9	4	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.28	743.7	29.81	757.2	63.5	17.5	60	N	10.1	4.5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.50	749.3	29.70	754.4	69.8	21.0	46	WNW	9	4	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.93	760.3	29.95	760.8	60.6	15.9	80	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.42	721.8	29.75	755.6	82.2	27.9	29	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.70	754.4	29.62	752.3	73.6	23.1	28	W	27	12	.....	.....	1k	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	28.97	735.8	29.43	747.4	60.3	15.7	91	N	2	1	.....	.....	10	.....	.....	.....	.....	Light rain...	Cand. Fatjanow.
Kasan	29.24	742.6	29.49	749.1	66.9	19.4	63	N	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.62	726.9	29.54	750.3	64.0	17.8	55	ENE	18	8	.....	.....	7cks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.5	29.73	755.2	80.1	26.7	43	WSW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	
Tashkend	28.17	715.6	29.62	752.4	88.9	31.6	53	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.21	734.2	29.38	746.2	67.1	19.5	62	ENE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.34	745.3	29.62	752 3	64.9	18.3	78	WSW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thunder.....	Physical Observat ory.
Peking (China)	29.56	750.7	29.70	754.3	81.5	27.5	85	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.74	755.4	29.64	757.9	65.8	18.8	88	SE	18	8	.....	.....	10cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.95	760.7	30.05	763.3	78.4	25.8	60	SSE	5.2	2.31	.....	.....	1k	.....	NW	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.11	764.9	30.17	766.3	75.7	24.3	52	W	1.4	0.63	.....	2	0	N	.....	0	0	Almost clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.17	690.0	.....	.....	76.1	24.5	42	NE	10.1	4.51	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.84	707.1	29.91	759.6	92.1	33.4	27	SW	3.7	1.67	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.85	758.2	29.99	761.8	90.5	32.5	53	E	5.3	2.36	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.22	742.1	30.08	764.1	74.8	23.8	41	NE	9.8	4.4	.....	1	0	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.98	761.4	30.04	763.0	81.9	27.7	83	NNE	2.9	1.3	.....	1c	0	WSW	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.7	29.88	759.0	84.6	29.2	78	NE	0.4	0.2	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.2	30.02	762.6	84.9	29.4	44	WSW	7.3	3.3	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.90	759.5	29.99	761.8	84.2	29.0	70	E	16.7	7.46	.....	5ck	3k	E	E	0.098	2.50	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.87	758.6	29.91	759.6	74.1	23.4	....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	
Umea	29.84	757.9	29.89	759.2	72.7	22.6	47	SSE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.78	756.4	29.83	757.7	75.9	24.4	60	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.59	751.5	29.76	756.0	73.2	22.9	60	SE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Wisby	29.68	753.9	29.74	755.4	66.9	19.4	79	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.66	753.3	29.74	755.5	72.3	22.4	56	ESE	7.2	3.2	.....	.....	4	S	SE	0.107	2.73	.....	Nils Ekho m.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.65	727.7	30.03	762.8	69.6	20.9	45	SW	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.45	722.6	30.05	763.2	66.2	19.0	55	W	.....	.....	2	.....	4	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.1 mm.; Thermometer, —1.4 Cent.; Relative Humidity, —8 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.6	77.9	25.5	44	NNE	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	68.2	31.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.55	750 6	29.67	753.5	88.5	31.4	53	W	.....	.....	1	.....	2k	.....	W	0	0	Blue sky ..	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.52	749.8	29.57	751.1	62	16.7	75	NW	14	6.3	.....	5k	2ks	NW	NW	0.59	15.0	Fair.....	G. A. Ball.
Charlottetown, P. E. Island	29.42	747.3	29.46	748.3	61	16.1	80	NW	18	8.0	.....	.....	10n	.....	.....	0.260	6.35	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.87	758.7	55.5	13.1	82	E	.....	.....	1	3ck	6s	NW	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.45	748.0	29.61	752.1	61	16.1	71	NW	.....	.....	3	0	5k	.....	.....	1.00	25.4	Fair.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.71	754.6	29.74	755.4	53	11.7	86	SW	12	5.4	.....	0	5s	.....	Calm	1.05	26.7	Clear.....	J. McWilliams.
Fredericton, N. B	29.65	753.1	29.72	754.9	59.0	15.0	66	NW	13	5.8	.....	0	d	.....	NW	0	0	Clear.....	Prof. Harrison.
*Fort Garry, Manitoba	29.81	744.5	30.13	765.3	52	11.1	83	W	5	2.2	.....	0	2s	.....	W	0	0	Fair.....	James Stewart.
Granton, Ontario	28.76	730.5	29.81	757.2	67	19.4	89	E	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.46	748.3	29.58	751.3	63	17.2	64	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.51	749.5	29.86	758.4	70.0	21.1	84	E	.....	.....	1	3ck	0	W	.....	0	0	Fine.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.68	751.3	29.91	759.7	59	15.0	64	SE	2	0.9	.....	5cs	0	SW	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.27	743.4	29.31	744.5	60.3	15.7	94	SW	4	1.8	.....	0	7n	.....	.....	0.26	6.3	Showery.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. R. Nason.
?Montreal, Quebec	29.74	755.4	29.93	760.2	58	14.4	67	Calm	0	0	.....	8c	0	NW	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740.4	29.82	757.4	64	17.8	68	SE	15	6.7	.....	2ck	2ks	W	W	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.17	740.9	29.90	759.4	61.5	16.4	65	SE	.....	.....	3	0	4ks	.....	.....	0	0	Fair.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.16	740.7	29.82	757.4	69	20.6	89	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.26	743.2	29.31	744.5	60.5	15.8	.....	NW	20	8.9	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.21	741.9	29.83	757.7	67	19.4	89	N	4	1.8	.....	0	Haze	.....	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.54	750.3	29.85	758.2	55	12.8	84	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.45	748 0	29.90	759 4	55	12.8	84	E	6	2.7	.....	5ck	5ks	W	N	0.08	2.0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.66	753.4	29.72	754.9	68	14.4	64	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.48	748.8	29.64	752.8	59	15.0	65	NW	19	8.5	.....	0	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.79	756.7	67	19.4	78	S	15	6.7	.....	5k	2s	SW	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.27	743.4	29.31	744.5	61	16.1	88	SW	14	6.3	.....	5k	8n	W	W	0.31	7.9	Threatening	T. C. Hill.
*Toronto, Ontario	29.51	749.6	29.88	758.9	64	17.8	88	E	8	3.6	.....	8ck	0	W	.....	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	29.56	750.8	29.60	751.8	69.0	20.6	61	W	5	2.2	.....	1k	0	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.49	749.0	29.74	755.4	55.0	12.8	93	SE	.....	.....	.....	.....	10n	.....	.....	.....	.....	Raining.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 366 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.71	754.6	29.94	760.5	59	15.0	65	N	4	1.8	.....	8cs	0	W	.....	0	0	Fair	
Alpena, Michigan	29.13	739.9	29.74	755.4	69	20.6	65	W	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	49	9.4	100	W	7	3.1	.....	.....	10s	.....	W	0.90	22.9	Cloudy	
Atlanta, Georgia	28.84	732.5	29.93	760.2	80	26.7	78	W	6	2.7	.....	5k	0	Calm	.....	0.32	8.1	Fair	
Atlantic City, New Jersey	29.90	759.4	29.92	760.0	70	21.1	90	NE	12	5.4	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Augusta, Georgia	29.80	756.9	29.98	761.5	82	27.8	79	SE	2	0.9	.....	1cs	1s	NW	NW	0.08	2.0	Clear	
Baltimore, Mafyland	29.85	758.2	29.90	759.4	72	22.2	76	E	5	2.2	.....	8k	2s	SW	Calm	0.05	1.3	Cloudy	
Barnegat, New Jersey	29.89	759.2	29.91	759.7	74	23.3	76	E	10	4.5	.....	.....	10n	.....	W	0.01	0.3	Light rain	
Bismarck, Dakota	28.37	720.6	30.22	767.6	51	10.6	79	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Boerne, Texas	28.52	724.4	29.76	755.9	78	25.6	86	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	27.16	689.8	30.12	765.0	61	16.1	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.76	755.9	29.91	759.7	63	17.2	42	NW	11	4.9	.....	8c;ck	0	NW	.....	0	0	Fair	
Brackettville, Texas	28.77	730.7	29.76	755.9	76	24.4	86	E	4	1.8	.....	.....	10s	.....	E	0.04	1.0	Cloudy	
Breckenridge, Minnesota	29.10	739.1	30.09	764.3	54	12.2	87	NW	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Brownsville, Texas	29.88	758.9	29.92	760.0	82	27.8	83	SE	8	3.6	.....	2cs	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.14	740.1	29.80	756.9	71	21.7	49	E	7	3.1	.....	2cs	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	27	Calm	.....	.....	0	2cs	0	SE	.....	0	0	Clear	
Burlington, Vermont	29.65	753.1	29.93	760.2	57	13.9	58	NE	3	1.3	.....	8c	0	W	.....	0	0	Fair	
Cairo, Illinois	29.56	750.8	29.94	760.5	74	23.3	90	SW	5	2.2	.....	.....	10s	.....	SW	1.56	39.6	Cloudy	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	29.89	759.2	29.90	759.4	83	28.3	91	SW	16	7.2	.....	2cs	Haze	NW	.....	0	0	Hazy	
Cape Henry, Virginia	29.84	757.9	29.85	758.2	83	28.3	71	SW	1	0.4	.....	5ck	2s	W	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	29.89	759.2	29.90	759.4	84	28.9	87	SW	16	7.2	.....	Haze	Haze	Calm	Calm	0	0	Dense haze	
Cape May, New Jersey	29.86	758.4	29.88	758.9	74	23.3	90	SE	10	4.5	.....	.....	10ks	.....	W	1.10	27.9	Cloudy	
Castroville, Texas	29.17	740.9	29.84	757.9	79	26.1	82	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.89	759.2	29.95	760.7	84	28.9	71	W	6	2.7	.....	2k	0	Calm	.....	0	0	Fair	
Charlotte, North Carolina	29.08	738.6	29.85	758.2	80	26.7	82	SW	4	1.8	.....	5c	Haze	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.18	741.1	29.94	760.5	77	25.0	82	SW	8	3.6	.....	8cs	2ks	Calm	SW	0	0	Cloudy	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	49	9.4	85	Calm	0	0	.....	0	0	.....	.....	0.18	4.6	Clear	
Chicago, Illinois	29.16	740.7	29.82	757.4	68	20.0	84	N	3	1.3	.....	.....	10ks	.....	N	0.16	4.1	Cloudy	
Cincinnati, Ohio	29.23	742.4	29.84	757.9	75	23.9	86	SW	4	1.8	.....	.....	10ks	.....	SW	0.90	22.9	Threatening	
Cleveland, Ohio	29.11	739.4	29.80	756.9	70	21.1	90	S	5	2.2	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Coleman City, Texas	28.15	715.0	29.74	755.4	74	23.3	81	NW	12	5.4	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Columbus, Ohio	29.00	736.6	29.79	756.7	74	23.3	86	S	4	1.8	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Concho, Texas	28.03	711.9	29.64	752.3	74	23.3	90	SE	3	1.3	.....	.....	10ks	.....	SE	0.20	5.1	Threatening	
Corsicana, Texas	29.49	749.0	29.94	760.5	80	26.7	78	S	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.28	743.7	29.90	759.4	64	17.8	83	NW	14	6.3	.....	0	0	.....	.....	0.90	22.9	Clear	
Deadwood, Dakota	25.56	649.2	.....	.....	50	10.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.78	731.0	29.87	758.7	85	29.4	61	SW	8	3.6	.....	2ck	0	Calm	.....	0	0	Fair	
Denison, Texas	29.12	739.6	29.87	758.7	81	27.2	70	S	10	4.5	.....	8k	0	SW	.....	0	0	Fair	
Denver, Colorado	24.97	634.2	30.19	766.8	59	15.0	94	S	4	1.8	.....	0	2s	.....	NW	0.32	8.1	Fair	
Des Moines, Iowa	29.16	740.7	30.02	762.5	60	15.6	77	N	6	2.7	.....	5c	0	NW	.....	0	0	Fair	
Detroit, Michigan	29.14	740.1	29.78	756.4	69	20.6	80	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.46	697.5	29.66	753.4	67	19.4	100	NE	8	3.6	.....	.....	10n	.....	NE	0.14	3.6	Light rain	
Dubuque, Iowa	29.26	743.2	29.93	760.2	63	17.2	67	NW	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Duluth, Minnesota	29.31	744.5	29.98	761.6	54	12.2	67	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.12	739.6	29.81	757.2	82	27.8	71	SE	3	1.3	.....	2ck	5s	Calm	SE	0	0	Fair	
Eastport, Maine	29.67	753.6	29.74	755.4	61	16.1	61	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	82	27.8	87	SE	.....	.....	4	2c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.24	666.5	.....	.....	72	22.2	80	N	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Erie, Pennsylvania	29.12	739.6	29.79	756.7	74	23.3	68	S	5	1.3	.....	8ck	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.21	741.9	29.84	757.9	60	15.6	65	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.46	722.9	30.06	763.5	80	26.7	44	W	4	1.8	.....	5ck	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.14	714.7	30.06	762.0	47	8.3	92	SE	4	1.8	.....	0	Fog	.....	SE	0	0	Clear	
Fort Davis, Texas	28.24	941.1	30.20	767.1	70	21.1	80	E	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Fort Gibson, Indian Ter	29.41	747.0	29.91	759.7	79	26.1	78	E	4	1.8	.....	1k	0	Calm	.....	0.60	15.2	Clear	
Fort Grant, Arizona	29.15	629.6	29.95	761.5	67	19.4	84	Calm	0	0	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Fort Griffin, Texas	28.69	728.7	29.86	759.4	78	25.6	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.55	699.8	.....	.....	55	12.8	80	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.69	703.3	29.52	749.8	73	22.8	85	SE	1	0.4	.....	.....	10s	.....	S	0.50	12.7	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.78	756.4	76	24.4	82	NE	6	2.7	.....	10ck	0	Calm	.....	0.07	1.8	Cloudy	
Fort Stevenson, Dakota	28.34	719.8	.....	.....	47	8.3	85	SW	1	0.4	.....	1c	Haze	Calm	W	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	77	25.0	49	W	.....	.....	1	1k	1s	W	W	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.20	716.3	29.68	753.9	79	26.1	70	SW	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.96	761.0	30.01	762.2	84	28.9	75	SW	7	3.1	.....	0	2ks	.....	SW	0.11	2.8	Clear	
Graham, Texas	28.86	733.0	29.87	758.7	77	25.0	73	Calm	0	0	.....	5cs	0	S	.....	0	0	Fair	
Grand Haven, Michigan	29.19	741.4	29.80	756.9	71	21.7	85	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.96	735.6	29.84	757.9	77	25.0	86	NE	2	0.9	.....	0	5s	.....	SW	0	0	Fair	
Indianapolis, Indiana	29.06	738.1	29.79	756.7	75	23.9	90	Calm	0	0	.....	.....	10n	.....	SW	1.75	44.5	Light rain	
Indianola, Texas	29.97	761.2	30.00	762.0	84	28.9	79	S	9	4.0	.....	0	1ks	.....	S	0	0	Clear	
Jacksboro, Texas	28.72	729.5	29.88	758.9	82	27.8	60	SW	1	0.4	.....	8ck	0	SE	.....	0	0	Fair	
Jacksonville, Florida	30.01	762.2	30.04	763.0	85	29.4	68	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.29	744.0	29.88	758.9	70	21.1	75	N	9	4.0	.....	5c	0	W	.....	0.01	0.3	Fair	
Key West, Florida	30.01	762.2	30.05	763.3	86	30.0	72	SE	3	1.3	.....	4c;k	0	Calm;SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.80	756.9	29.82	757.4	84	28.9	79	W	15	6.7	.....	5cs	Haze	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.00	736.6	29.94	760.5	75	23.9	90	SW	7	3.1	.....	.....	10ks	.....	W	0	0	Cloudy	
La Crosse, Wisconsin	29.26	743.2	29.95	761.0	60	15.6	71	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	66	18.9	95	NW	1	0.4	.....	2c	2s	NW	Calm	0.81	20.6	Fair	
Laredo, Texas	29.52	749.8	29.84	757.9	83	28.3	53	SE	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Leavenworth, Kansas	29.16	740.7	29.97	761.2	67	19.4	79	N	4	1.8	.....	.....	10s	.....	.....	0.06	1.5	Cloudy	
Little Rock, Arkansas	29.64	752.3	29.95	760.7	79	26.1	82	SW	4	1.8	.....	.....	10ks;n	.....	Calm	Inap.	Inap.	Light rain	
Los Angeles, California	29.58	751.3	29.91	759.7	65.0	18.3	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.86	758.4	75	23.9	86	NE	5	2.2	.....	2ck	8s	NE	Calm	0.01	0.3	Cloudy	
Lynchburg, Virginia	29.24	742.7	29.85	758.9	77	25.0	82	SW	2	0.9	.....	8c;ck	2s	NW;W	SW	1.27	32.3	Cloudy	
Madison, Wisconsin	28.91	734.3	29.80	756.4	64	17.8	68	NW	20	8.9	.....	0	5s	.....	NW	0	0	Fair	
Marquette, Michigan	29.13	739.9	29.81	757.2	59	15.0	65	NW	12	5.4	.....	0	0	.....	.....	0.07	1.8	Clear	
Mason, Texas	28.32	719.3	30.00	762.0	78	25.6	69	SE	6	2.7	.....	8cs	2s	Calm	Calm	0	0	Cloudy	
Memphis, Tennessee	29.04	737.8	29.96	761.0	74	23.3	95	SE	8	3.6	.....	6cs	5s	Calm	S	0.10	2.5	Cloudy	
Milwaukee, Wisconsin	29.13	739.9	29.83	757.7	66	18.9	79	N	14	6.3	.....	5k	2s	N	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.01	762.2	30.05	763.3	80	26.7	89	NW	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Montgomery, Alabama	29.80	756.9	30.02	762.5	80	26.7	86	SW	3	1.3	.....	2cs	0	W	.....	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.68	728.5	29.82	757.4	74	23.3	81	SW	6	2.7	.....	.....	10s	.....	Calm	0.58	14.7	Cloudy	
Mt. Washington, N. H.	23.73	602.7	30.09	764.3	41	5.0	19	NW	37	16.5	.....	8c	0	NW	... .	0	0	Cloudy.....	
Nashville, Tennessee	29.42	747.3	29.93	760.2	76	24.4	86	SW	1	0.4	.....	.....	10ks	.....	SW	0.78	19.8	Cloudy.....	
New Haven, Connecticut	29.82	757.4	29.93	760.2	67	19.4	62	NE	4	1.8	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	29.88	758.9	29.93	760.2	68	20.0	61	N	2	0.9	.....	7ck	0	W	.....	0	0	Fair	
New Orleans, Louisiana	29.90	761.7	30.05	763.3	83	28.3	79	SW	2	0.9	.....	0	1s	.....	Calm	0.04	1.0	Clear.....	
Newport, Rhode Island	29.87	758.7	29.92	760.0	68.5	20.3	40	N	8	3.6	.....	5ck	Haze	NW	.....	0	0	Fair	
New York, New York	29.76	755.9	29.92	760.0	73	22.8	59	NE	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Norfolk, Virginia	29.81	757.2	29.86	758.4	81	27.2	83	SW	3	1.3	.....	.....	10s	... .	SW	0	0	Cloudy	
North Platte, Nebraska	27.25	692.1	29.77	756.1	60	15.6	74	NE	5	2.2	.....	5k	0	NW	... .	0	0	Fair.....	
Olympia, Washington Ter.	29.96	761.0	29.99	761.7	51.5	10.8	93	N	1	0.4	.....	0	Sm'e	... .	Calm	0	0	Clear.....	
Omaha, Nebraska	28.95	735.3	30.03	762.7	61	16.1	82	N	7	3.1	.....	5ck	2s	NW	Calm	0.04	1.0	Fair	
Oswego, New York	29.59	751.6	29.99	759.4	66	18.9	89	SE	2	0.9	.....	2c	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	29.23	742.4	30.07	763.8	41	5.0	100	W	2	0.9	.....	9	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.85	758.2	29.90	759.4	72	22.2	67	SE	10	4.5	.....	.....	10ks	.....	SW	0.02	0.5	Cloudy.....	
Phœnix, Arizona	28.71	729.2	30.48	772.9	78	25.6	78	SE	5	2.2	.....	0	8s	.....	S	0.05	1.3	Fair.....	
Pike's Peak, Colorado	18.03	458 0	30.24	768.1	32	0.0	100	Calm	0	0	.....	.....	10n	....	Calm	0.95	24.1	Light snow	
Pilot Point, Texas	29.06	738.1	29.82	757.4	86	30.0	75	N	5	2.2	.....	8k	2s	NE	N	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	55	12.8	68	NW	1	0.4	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Pittsburg, Pennsylvania	29.04	737.6	29.81	757.2	70	21.1	90	SW	8	3.6	.....	.....	10n	.....	Calm	0.07	1.8	Light rain...	
Port Huron, Michigan	29.15	740.4	29.77	756.1	69	20.6	70	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	29.84	757.9	29.89	759.2	62	16.7	66	NW	12	5.4	.....	2k	0	Calm	.....	0	0	Fair.....	
Portland, Oregon	29.94	760.5	30.02	762.5	57.5	13.9	87	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.83	630.7	30.19	766.8	65	18.3	68	W	.....	.....	1	2ck	0	W	.....	0	0	Fair	
Punta Rassa, Florida	30.04	763.0	30.05	763.3	82	27.8	83	N	6	2.7	.....	5ck; cs	0	W	.....	0	0	Fair.....	
Red Bluff, California	29.47	748.5	29.81	757.2	73	22.8	43	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.73	755.1	29.94	760.5	81	27.2	78	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.27	743.4	29.86	758.4	67	19.4	60	SE	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Rossburg, Oregon	29.46	748.3	30.02	762.5	55	12.8	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.73	755.1	29.81	757.2	66	18.9	59	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.33	745.0	29.88	758.9	74	23.3	86	W	5	2.2	.....	5k	5s	W	Calm	0.23	5.8	Cloudy.....	
St. Marks, Florida	30.04	763.0	30.05	763.3	80	26.7	87	NW	3	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Paul, Minnesota	29.19	741.4	30.00	762.0	57	13.9	75	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.71	653.0	30.04	763.0	65	18.3	35	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.....	
San Antonio, Texas	29.27	743.4	29.82	757.4	80	26.7	78	SE	4	1.8	.....	2ck	5s	Calm	SE	0	0	Cloudy.....	
San Diego, California	29.86	758.4	29.93	760.2	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.15	740.4	29.78	756.4	74	23.3	76	NE	5	2.2	.....	10k	0	SW	.....	Inap	Inap	Cloudy	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	73	22.8	63	E	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
San Francisco, California	29.81	757.2	29.87	758.7	53	11.7	90	W	4	1.8	.....	0	Fog	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	57	13.9	87	N	4	1.8	.....	1k	0	NW	.....	0.58	14.7	Clear.....	
Savannah, Georgia	29.92	760.0	30.00	762.0	87	30.6	65	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Shreveport, Louisiana	29.76	755.6	29.96	761.0	79	26.1	87	S	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.93	760.2	29.96	761.0	85	29.4	87	W	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear.....	
Socorro, New Mexico	25.46	646.7	29.52	749.5	66	18.9	84	Calm	0	0	.....	1c	2s	Calm	Calm	1.24	31.5	Fair	
Springfield, Ill	29.25	742.9	29.90	759.4	74	23.3	76	NW	5	2.2	.....	2c;cs	0	W	.....	0.32	8.1	Fair	
Springfield, Massachusetts	29.80	756.9	29.93	760.2	65	18.3	58	Calm	0	0	.....	0	5ks	.....	SW	0	0	Fair	
Stockton, Texas	26.92	683.8	29.92	760.0	70	21.1	13	S	4	1.8	.....	.....	10s	.....	E	Inap	Inap	Cloudy.....	
Thatcher's Island, Mass	29.87	758.7	29.92	760.0	60	15.6	77	NW	12	5.4	.....	5k	Haze	Calm	.....	0	0	Fair	
Toledo, Ohio	29.14	740.1	29.79	756.7	72	22.2	80	E	1	0.4	.....	10cs	Sm'e	SW	.....	Inap.	Inap.	Threatening	
Tucson, Arizona	27.55	699.8	30.10	764.5	75	23.9	81	NW	4	1.8	.....	.....	10n	.....	Calm	0.28	7.1	Light rain...	
Umatilla, Oregon	29.58	751.3	30.06	763.5	62.0	16.7	46	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.02	737.1	29.80	756.9	78	25.6	82	Calm	0	0	.....	.....	10n	.....	E	0.43	10.9	Light rain...	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	79	26.1	87	SW	4	1.8	.....	2c	5s	Calm	SW	0	0	Fair.....	
Virginia City, Montana	24.42	620.3	29.90	759.4	55	12.8	39	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.46	748.3	29.81	757.2	62	16.7	67	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.76	755.9	29.87	758.7	74	23.3	81	NE	6	2.7	.....	2cs	5s	W	W	0.06	1.5	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	70	21.1	53	S	.....	.....	1	5k	0	Calm	.....	0.84	20.8	Fair.....	
Wilmington, N. Carolina	29.94	760.5	30.01	762.2	86	30.0	72	W	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.99	652.5	30.05	763.3	62	16.7	32	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.87	758.7	29.91	759.7	67	19.4	50	N	7	3.1	.....	5ck	8s	Calm	Calm	0	0	Cloudy.....	
Yankton, Dakota	28.85	732.8	30.14	765.5	57	13.9	69	N	2	0.9	... ...	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.74	755.4	29.89	759.2	83	28.3	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	84	28.9	79	Calm	0	0	.....	4c	0	Calm	.....	0	0	Fair.....	J. H. Gordon.
Kingston, Jamaica, W. I	30.15	765.8	30.16	766.1	80	26.7	83	Calm	0	0	.....	2c	0	Calm	... .	0	0	Fine.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.25	641.3	.....	.....	66.0	18.9	80	Calm	.....	.....	0	.....	10n	.....	.....	0.41	10.4	.....	James Gall.
Navassa, W. I	29.88	758.9	29.96	761.0	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	83	28.3	79	E	.....	.....	2	0	5k	.....	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I	29.59	751.6	29.60	751.8	83	28.3	71	NE	14	6.3	.....	2c	2ks	E	.....	0	0	.....	Robert Mason.
York Factory, B. A	29.92	760.0	29.97	761.2	43.0	6.1	96	S	11	4.9	.....	4k	0	N	.....	0	0	Fair.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,191.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.80 in., or 46.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.45 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.6‡			82	27.8	91	NW	4	1.8			2		SW	0	0			Fair	
Navy Yard, Portsmouth, N. H																					
Naval Hospital. Yokohama, Japan	29.76‡	755.9‡			78	25.6	95	NNW			1		10n		SE	Slight	Slight			Light rain	
Adams. Mare I'd, Navy Yard, Cal.	29.84‡	757.9‡			59	15.0	82	SSW			3		8		SW					Cloudy	
Alliance, Stockholm, Sweeden	29.78‡	756.4‡			73	22.8	63	SE			1		3		E					D. clouds	
Ashuelot, Yokohama, Japan	29.73‡	755.1‡			79	26.1	95	Calm			0		10		Calm			Smooth		Cloudy	
Colorado. New York, N. Y.	29.86‡	758.4‡			73	22.8	67	NE	2	0.9			10			0	0			Threatening	
Constitution. Navy Yard, Brooklyn, N.Y.	29.92‡	760.0‡			72	22.2	67	ENE			2		10		Calm					Overcast	
Enterprise, Kiel, Germany.	29.86‡	758.4‡			65	18.3	68	WSW			3		3		W			Smooth		Clear	
Essex, S 30° 48′, W. 46° 15′	30.21‡	767.3‡			63	17.2	94	E			5		10		ENE			Long	SSE	Cloudy	
Franklin. Norfolk, Va.	29.77‡	756.1‡			81	27.2	83	SW	4.8	2.1			10			0	0			Cloudy	
Hartford Rio de Janeiro, Brazil	30.14‡	765.5‡			75	23.9	81	NE	1	0.4			5?			0	0			Clear?	
Independence, Mare I'd. Navy Yard, Cal.	29.89‡	759.2‡			62	16.7	77	SW	6.0	2.7			7		SW	0	0			Cloudy	
Kearsarge, Shediac, New Brunswick.	29.56‡	750.8‡			63	17.2	72	NNW			6		8		NNW					Fair	
Michigan. Chicago, Ill.	29.77‡	756.1‡			67.5	19.7	87	WSW			2		10		WNW					Cloudy	
Monocacy. Shanghai, China	29.79‡	756.7‡			86	30.0	83	W			0–1		8		W					Cloudy	
Monongahela, Yokohama, Japan	29.73‡	755.1‡			79	26.1	86	NW			2		k			Very light	Very light			D. clouds	
New Hampshire. Port Royal, S. C	29.98‡	761.5‡			88	28.3	79	W	16	7.2			0			0	0			Clear	
Onward, Callao, Peru.†	30.01‡	762.2‡			62	16.7	88	Var.			1		10					Long	W	Cloudy	
Palos, Shanghai, China	29.79‡	756.7‡			83	28 3	91	W			1		5							Fair	
Passaic, Washington, D. C.					76	24.4	100	NE			2		10		SW					Cloudy	
Pensacola, Callao, Peru	29.99‡	761.7‡			61	16.1	94	NW	3	1.3			10					Smooth		Overcast	
Portsmouth. Portsmouth, N. H	29.90‡	759.4‡			63	17.2	57	Calm			0		2		NW	0	0	Smooth		Clear	
Powhatan, N. 27° 35′, W 79° 53′	30.03‡	762.7‡			82	27.8	83	W			1–2		2		Calm	0	0	Smooth		Fair	
Quinnebaug, N. 41° 43′, E. 17° 40′	29.89‡	759.2‡			82	27.8	71	NW			1		0					Smooth		Hazy	
Ranger, Nagasaki, Japan	30.12‡	765.0‡			85	29.4	83	SW			1		2		Calm			Smooth		D. clouds	
Richmond, Yokohama, Japan	29.70‡	754.4‡			81	27.2	96	SSE			2		10			0.05	1.3	Smooth		Drizzling	
Rio Bravo, Brownsville, Texas	29.93‡	760.2‡			81	27.2	96	SSE			1		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	29.90‡	759.4‡			74	23.3	90	E			3		8		S	0	0			Cloudy	
Saratoga, New Bedford, Mass.	29.92‡	760.0‡			66	18.9	59	N			2		5		W	0	0			D. clouds	
St. Louis, League Island, Pa	29.91‡	759.7‡			72	22.2	95	ESE	12	5.4			10		Calm	0.06	1.5			Cloudy	
Trenton, Grave's End, Eng.	29.86‡	758.4‡			65	18.3	68	W			3–4		5			0	0	Smooth		Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.86‡	758.4‡			61	16.1	94	SSW			2		2		Calm	0	0	Smooth		D. clouds	
Vandalia, Beaufort river, S. C.	29.98‡	761.7‡			82	27.8	79	WSW			2		2		W	0	0			Clear	
Wabash. Boston, Mass.	29.73‡	755.1‡			64	17.8	62	NW	4	1.8			5			0	0			Fair	
Wachusett, N. 24° 17′, W. 83° 40′	30.05‡	764.0‡			84	28.9	83	NNE			2		2		SE			Smooth		Fair	
Wyoming. Constantinople, Turkey	29 86‡	758.4‡			77	25.0	49	N			3–4		2		N			Smooth	N	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			Capt. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 31° 14', W. 119° 16'..†		29.94‡	760.5‡	64	17.8	89	Calm?			1?		*10		Calm	0	Mod'ate Confused	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. White
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Cannon
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, Australia		29.40‡	746.7‡				SE			3				SE					R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 32° 32', E 134° 47'		29.81‡	757.2‡	83	28.3	100	W			5	5c				0	Mod'ate	W	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 34° 04', E. 137° 23'		29.64‡	752.6‡	79	26.1	91	Var.			1–4		9		N		Smooth		D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, Off the Needles, Isles of Wight, Eng.		29.90‡	761.0‡	66.0	18.3	100	WSW			4		10		WSW	0	Mod'ate	W	Drizzling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		29.73‡	755.1‡				ENE			2		2		NE				Fair	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 02', W. 46° 31'....	.....	29.92‡	760.0‡	63	17.2	??	Calm?	.....	.....	1?	.....	9	.....	SW	Mod'ate	Light	SW	Foggy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
S. S. Pennsylvania..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
Schooner Charley Buck.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax",....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Schooner Harry and Fred.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner.
§Iron Cross, N. 43° 36', W. 11° 24'.....	.....	30.17‡	766.3‡	68.8	20.4	90	WSW	.....	.....	3	.....	9	.....	.....	.....	2	NW	Overcast....	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

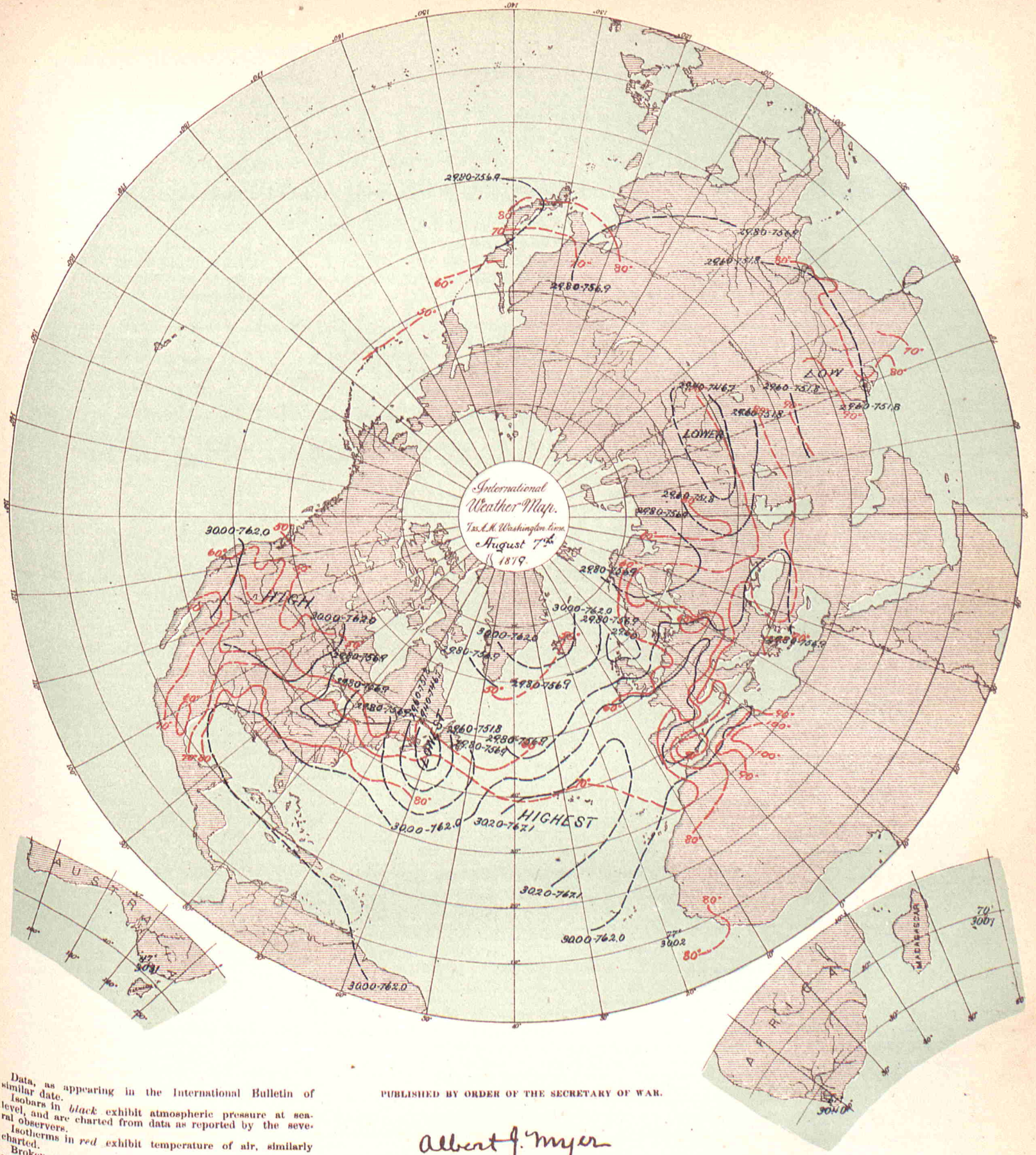
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 8, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.09	764.2	69.8	20.7	85	N			1		2			0	0	Fair	
Nemours			30.10	764.4	83.8	28.8	78	Calm			0		5			0	0	Cloudy	Kesxuche.
Algiers			30.06	763.4	80.6	27.0	73	NE			2		0			0	0	Clear	Touriliere.
La Calle			30.08	764.0	87.8	31.0	78	NNW			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.14	765.5															
Tebessa			30.07	763.6	91.8	33.2	16	N			5		0			0	0	Clear	Herbin.
Geriville			30.08	764.1	84.2	29.0	29	SE			1		10			0.039	1.0	Covered	Watrin.
Laghouat					70.5	21.4	54	WNW			6		2			0.079	2.0	Fair	Brugniaux.
Biskra			30.04	763.1	95.7	35.4	31	WNW			2		5			0	0	Cloudy	Bertrand.
			30.00	762.0	104.0	40.0	26	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.47	748.4	29.99	761.8	73.6	23.1	51	N			1		10			0	0		Prof. Ivan Stosir.
Eperies	29.23	742.4	29.98	761.4	66.6	19.2	61	NW	7.8	3.5			6			0.016	0.4		Prof. Dr. Karlinski, Dir.
Gratz	29.07	738.4	29.91	759.8	72.7	22.6	60	S			2		78			0	0		Julius Mikolik.
Hermannstadt	28.82	732.1	30.04	762.9	68.0	20.0	75	SW			2		9			0.532	13.5		Andreas Rospini.
Kremsmünster	28.54	724.8	29.89	759.3	77.7	25.4	70	N			2		8			0.098	2.45		Prof. A. Gottschling.
Lemberg	28.68	728.5	29.98	761.4	68.0	20.0	74	NW			2		3			0.264	6.7		Prof. C. Wagner.
Pola	28.95	735.4	29.91	759.6	69.4	20.8	66	NW			1		3			0.122	3.1		Dr. T. Stanecki.
Szathmar	29.82	757.3	29.92	760.0	63.8	28.8	40	ESE			1		0			0	0		I.R.HydrographicOffice.
Szegedin	29.60	751.7	30.04	763.1	72.0	22.2	66	S			1		7			0	0		G. Sanctjohanzer.
Trieste	29.71	754.7	29.98	761.5	60.6	27.0	51	SE			3		8			0	0		Karl Stancel.
Vienna	29.87	758.6	29.97	761.2	79.9	26.6	52	ENE			2		0			0	0		P. Busin.
	29.30	744.2	30.05	763.2	73.0	22.8	60	W			3		3			0.012	0.3		I. R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.64	752.8	29.74	755.4	58.4	14.7	.....	NW	18	8.0	.....	.....	4	.....	.....	Blank	Blank	Blue sky	W. Boswell.
Ardrossan	29.79	756.7	29.80	756.9	55	12.8	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.67	753.6	29.89	759.2	55.9	13.3	.....	NNW	2	0.9	.....	.....	9	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	60.6	15.9	.....	NW	9	4.0	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	29.86	758.2	59.2	15.1	.....	WNW	18	8.0	.....	.....	5	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.43	747.5	29.83	757.7	58.7	14.8	.....	NW	.....	.....	3	.....	3	.....	.....	0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	83.5	28.6	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.76	755.9	29.85	758.2	66.0	18.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.83	757.7	67.4	19.7	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	60.8	16.0	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.84	757.9	29.88	758.9	60	10.0	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.86	758.4	29.88	758.9	60	15.6	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth, Observatory	29.69	754.1	29.91	759.7	60.3	15.7	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.94	709.7	30.23	767.8	55.0	12.8	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	80	26.7	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	D. clouds	...
Galway, Queen's College	.....	.....	29.81	757.2	60	15.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.02	762.5	83.6	28.7	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.59	751.6	29.79	756.7	56.8	13.8	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.85	758.2	29.86	758.4	62	16.7	.....	NNE	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.86	758.4	65.6	18.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.87	758.7	59	15.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Dr. S.E.Hoskins,F.R.S.
Helston	29.95	760.7	30.07	763.8	62	16.7	.....	SW	.....	.....	2	.....	8k	.....	.....	0.05	1.3	Fair	M. P. Moyle.
Holyhead	29.86	758.4	29.88	758.9	58	14.4	.....	N	.....	.....	3	.....	4	.....	.....	...	.....	D. clouds	John Tilston.
Jersey	29.72	754.9	30.01	762.2	56.6	13.7	.....	W	...	...	2	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	29.83	757.7	29.86	758.4	63.6	17.6	...	SW	7	3.1	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.59	751.6	29.84	757.9	64.0	17.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	86.6	30.3	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.66	753.4	29.75	755.6	57	13.9	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.06	763.5	86.?	30.3	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.66	753.4	29.84	757.9	71.3	21.8	.....	NW	.....	.....	3	.....	7ck;k;	ks	W	0.012	0.30	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.32	744.7	29.83	757.7	65.0	18.3	.....	WNW	.....	.....	1-2	.....	9	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.87	758.7	64	17.8	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.84	757.9	29.91	759.7	62.1	16.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.81	757.2	29.93	760.2	60	15.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
Saint Ann's Head	29.71	754.6	29.87	758.7	58	14.4	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.71	754.6	54.8	12.7	.....	NNW	11	4.9	.....	.....	10	.....	.....	.....	.....	Showery	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	89.6	32.0	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.57	751.1	29.86	758.2	66.1	18.9	.....	NW	.....	.....	2	.....	5	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.80	756.9	29.83	757.7	57.8	14.3	72	W	.....	.....	2	.....	4	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.84	757.9	57.2	14.0	.....	WSW	13	5.8	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	61.8	16.6	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.90	759.4	29.91	759.7	61	16.1	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.83	757.7	29.85	758.2	61.2	16.2	.....	SE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.08	764.0	30.12	765.0	68.8	20.4	.....	W	3.3	1.5	.....	6	6	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.79	756.7	58.0	14.4	.....	W	.....	.....	2	.....	10k	.....	.....	0.01	0.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.3	72.0	22.2	66	SE	19.0	8.5	.....	0	2	.....	ESE	0.09	2.3	Squally	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	43.0	6.1	92	SSE	8	3.6	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel. Height scale 0—9	Sea or swel. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00′. E. 29° 00′	.....	.....	29.85‡	758.2‡	60.5	26.9	.....	NNE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Capt.W. J. L. Wharton.
Atmosphere, N. 49° 20′ W. 20° 25′	.....	.....	29.83	757.7	66	18.9	.....	SW	.....	.....	6	.....	10	.....	.....	6	SW	Foggy	.....
Barque Commewyne, N. 45° 10′, W. 32° 10′	.....	.....	29.75‡	755.6‡	61.5	16.4	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Capt. A. Buchan.
Gordon Castle, N. 42° 15′, W. 55° 00′	.....	.....	29.82	757.4	73	22.8	.....	W	.....	.....	6	.....	1	.....	.....	4	NW	Blue sky	.....
German Brig "W. von Freeden" N. 38° 20′, W. 64° 25′	.....	.....	29.93	760.2	81	27.2	.....	WSW	.....	.....	5	.....	8	NW	.....	2	SW	Showery	Capt. H. v. Freeden.
Theophane, N. 25° 35′, W. 33° 10′	.....	.....	30.20‡	767.1‡	77.4	25.2	.....	NE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.26	667.0	29.98	761.5	67.6	19 8	90	SE	.....	.....	2	2ck	1d	.....	.....	Inap	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.69	754.2	29.74	755.4	64.9	18.3	63	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	29.74	755.5	29.76	756.0	61.7	16.5	78	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.86	758.4	29.90	759.5	44.6	7.0	96	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Stykkisholm (Iceland)	30.00	761.9	30.04	763.0	55.0	12.8	77	NW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.85	758.2	29.89	759.1	51.1	10.6	75	N	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	29.62	752.3	29.73	755.1	61.7	16.5	83	SW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.4	30.06	763.4	62.6	17	75	SW	.....	.....	1	.....	10kn	.....	SW	0.020	0.5	Raining	Collignon, Director.
Amiens, Normal School	29.58	751.4	29.97	761.1	66.0	20	66	SW	.....	.....	5	.....	5	.....	NE	0.087	2.2	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.69	754.0	29.94	760.4	61.5	16.4	69	N	.....	.....	5	.....	.....	.....	SW	0.063	1.6	.....	Klein, Commandant.
Avignon, Normal School	29.93	760.3	30 01	762.3	65.1	18.5	33	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Par-sur-Seine,	29.49	749.0	30.03	762.7	69.4	20.8	54	SW	.....	.....	1	.....	10n	.....	SW	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.72	754.8	29.97	761.3	68.9	20.5	58	W	.....	.....	2	.....	10	.....	W.	0	0	Covered	Frere Eugene Marie.
Besançon, Normal Schoo	29.22	742.2	30.08	764.0	73.0	22.8	50	SW	.....	.....	1	.....	2	SW	.....	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.3	30.19	766.9	75.2	24	51	N	.....	.....	2	.....	k	SW	W	0	0	.....	Marlot, Director.
Bourges, Normal School	29.52	749.7	30.05	763.3	72.5	22.5	66	SW	.....	.....	1	.....	k	SW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.68	753.8	29.92	760.0	61.2	16.2	93	SSW	.....	.....	2	.....	10	.....	SW	0.039	1.00	Rain and fog	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.68	753.9	30.08	763.9	82.9	28.3	33	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.91	759.7	29.98	761.6	63.3	17.4	84	SW	.....	.....	1	.....	10	.....	SW	0	0	Covered	M. Bletrin, Director.
Chartres, Normal School	29.46	748.3	30.02	762.4	64.9	18.3	78	W	.....	.....	1	.....	10	.....	W	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.09	754.0	29.94	761.8	73.6	23.1	59	SW	.....	.....	3	.....	8	SW	SW	.....	.....	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.74	730.0	30.04	763.0	75.2	24.0	46	W	.....	.....	3	.....	5	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School.	29.17	740.9	30.01	762.2	66.7	19.3	64	WSW	.....	.....	3	.....	5kn	WSW	WSW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	735.0	30.08	764.0	68.1	28.4	23	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.34	745.3	30.08	764.1	74.8	23.8	56	NW	.....	.....	3	.....	5ck	.....	SW	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.85	758.2	30.06	763.5	72.7	22.6	66	SW	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.73	755.2	30.04	762.9	65.8	18.8	75	W	.....	.....	1	.....	8	.....	W	0.010	0.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.21	741.9	30.10	764.6	74.7	23.7	55	SW	.....	.....	1	.....	5cn	SW	SW	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.1	30.07	763.7	61.9	16.6	94	S	.....	.....	2	.....	.....	.....	S	0.079	2.00	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.47	748.6	30.07	763.7	75.4	24.1	46	W	.....	.....	1	.....	5	.....	WNW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.69	754.2	29.96	760.9	81.7	27.6	39	W	.....	.....	2-3	.....	1	.....	.....	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	29.01	736.9	30.03	762.7	69.8	20.7	69	N	.....	.....	1	.....	10k	N	N	.....	.....	Raining	Barbier, Director
Mont-Louis	25.04	636.0	30.35	771.0	69.8	21.0	49	SE	20.6	9.2	.....	.....	.....	.....	.....	0	0	.....	M. Cave.
Nice	29.93	760.7	29.98	761.5	79.9	26.6	67	SSE	.....	.....	2	.....	1	S	SSE	0	0	Clear	M. Boissiéré, Director.
Nismes, Normal School	29.80	757.0	29.99	761.8	87.1	30.6	45	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.73	755.1	65.8	18.8	66	WSW	.....	.....	3	.....	10	.....	SW	0	0	.....	Mme Davy Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.76	578.0	.....	.....	58.1	14.5	.....	W	.....	.....	2	.....	1	.....	W	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.97	761.3	30.08	763.9	81.3	27.4	30	W	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.2	.....	.....	51.1	10.6	86	W	.....	.....	2	.....	8	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.08	764.1	30.11	764.9	71.1	21.7	74	WSW	.....	.....	2	.....	8	WSW	WSW	0	0	¾ covered	Lt. E. Decante, Director.
Ronen, Normal School	29.90	759.5	29.99	761.7	64.4	18.0	68	WSW	.....	.....	2	.....	8	.....	SW	0.079	2.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.95	760.7	29.98	761.5	60.3	15.7	93	SSW	.....	.....	2	.....	8	SSW	SSW	0.011	0.28	Threatening	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.84	757.9	30.01	762.2	66.4	19.1	65	WSW	.....	.....	3	.....	10	.....	WSW	0.213	5.4	.....	E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.17	766.2	73.4	23	66	W	.....	.....	3	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.46	748.2	30.18	766 5	74.5	23.6	45	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.84	757.9	30.04	762.9	69.8	21.0	72	W	.....	.....	2	.....	10	.....	W	0.012	0.3	Rainy	Cousin-Marquet.
Versailles, Observatory	29.54	750.3	30.03	762.8	65.5	18.6	64	WSW	.....	.....	1	.....	.....	.....	.....	0.143	3.62	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.40	746.8	30.08	764.1	78.8	26	54	NW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	79.5	26.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.22	31.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.75	755.7	29.78	756.3	79 3	26.3	87	W	7.2	3.2	.....	.....	3k	.....	.....	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.: Puy de Dome, (Summit) 1,467 m., or 4,818 ft.; Tarbes, 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,436 ft.: Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.2	29.98	761.6	67.1	19.5	72	W			2		8	W		0	0		Prof. Dr. Hoh.
Berlin	29.83	757.6	29.99	761.8	70.7	21.5	49	SW			5		8			0.020	0.5		Prof. Dr. Arndt.
Breslau	29.46	747.9	29.98	761.4	68.2	20.1	53	NW			1		3			0.234	5.96		Royal University Ob'sy.
Carlsruhe	29.58	751.2	29.99	761.8	69.8	21.0	60	SW			2		10	SW		0	0		Albert Sens.
Cassel	29.34	745.1	29.94	760.5	64.8	18.2	85	SSW			2		8	WSW		0	0		Dr. H. Möhl.
Crefeld	29.72	754.8	29.88	758.9	67.8	19.9	69	SW			4		8k			0.20	5.		Director Lose.
Emden			29.84	757.8	63.7	17.6	75	SW			1		2			0.106	2.7		Prof. Dr. Prestel.
Frankfort on the Main	29.80	751.7	29.95	760.8	72.1	22.3		SW			4		8			0	0		Physical Society.
Freienwalde on the Oder	29.85	758.1	29.89	759.1	70.5	21.4	56	W			4		3ks	WNW		0	0		Dr. Assmann.
Friedrichshafen	28.62	726.9	30.01	762.3	68.2	20.1	61	WNW			4		4	W		0.276	7.0		M. Wilhelm.
Hamburg	29.78	756.5	29.85	758.2	64.8	18.2	73	WSW			4		7k			0.087	2.2	Fair	Captain F. Hegeman
Kiel	29.80	757.0	29.82	757.4	61.9	16.6	81	W			2		10			0.102	2.59		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.72	755.0	29.80	757.0	65.5	18.6	61	W			5		6			0.764	19.4		Prof. E. Luther.
Köslin			29.81	757.2	63.1	17.3		W			2		3			0	0		H. Müller.
Leipsic Observatory	29.55	750.5	29.96	760.9	67.3	19.6	55	SW			4		9	WSW		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.71	754.6	29.76	755.8	64.4	18.0	74	W			7–8		7s						Skalweit.
Munich (München)	28.24	717.2	30.10	764.6	69.6	20.9	45	SW			3		8	SW		0.012	0.3		Dr. C. Lang.
Neufahrwasser	29.82	757.4	29.84	757.8	65.5	18.6	62	WSW			4		7			0.067	1.7		A. Lothes.
Posen	29.60	751.9	29.88	759.0	67.3	19.6	56	W			5		9			0.075	1.9		Dr. Magener.
Strassburg (in Alsace)	29.50	749.2	30.03	762.7	72.3	22.4	53	SW			2		10	W		0	0		Imp. University Observatory.
Stuttgart	29.05	737.8	29.95	760.8	72.5	22.5	44	W			5		9	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.53	724.7	29.99	761.8	68.7	20.4	53	Calm	0	0			9k		W	0	0		T. Hopfner.
Wustrow	29.83	757.7	29.85	758.3	62.4	16.9	75	SW			4		5s			0.059	1.5		E. Schultz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.89	759.3	93.9	34.4		SW			0.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.46	749.2	29.52	749.7	81.7	27.6	73	W	19.0	8.5			10		W	0	0	Threatening	
Deesa	29.09	738.8	29.56	750.7	78.2	25.7	87	SW	18.2	8.1			10		WSW	1.96	49.8	Overcast	
Bombay	29.70	754.3	29.73	755.2	78.6	25.9	94	W	14.0	6.3			10		WSW	0.23	5.8	Overcast	
Poona	27.90	708.6	29.76	756.0	73.5	23.1	84	WSW	15.0	6.7			8		WSW	0.24	6.1	Drizzling	
Lahore	28.74	730.0	29.45	748.0	99.1	37.3	45	E	3.3	1.5			2			0	0	Blue sky	
Belgaum	27.27	692.4	29.53	757.7	69.8	21.0	94	W	14.0	6.3			9	W	W	0.31	7.9	D. clouds	
Roorkee	28.62	727.0	29.50	749.3	86.5	30.4	78	Calm	3.3	1.5			6			0	0	D. clouds	
Agra	28.86	733.0	29.41	747.0	87.7	30.9	69	SW					2		W	0	0		
Nagpur	28.59	726.3	29.63	752.5	81.7	27.6	83	Calm	5.3	2.4			8		E	0.10	2.5	Gloomy	
Lucknow	29.13	740.0	29.50	749.4	85.2	29.6	87	N	3.2	1.4			6		NNE	0.05	1.3	D. clouds	
Allahabad	29.25	743.0	29.56	750.9	82.1	27.8	91	N	2.9	1.3			10			0.55	14.0	Drizzling	
Patna	29.33	745.0	29.51	749.5	87.8	31.0	77	ENE	0.4	0.2			6	ENE	NE	0.01	0.3	D. clouds	
Hazaribagh	27.54	699.6	29.54	750.2	77.8	25.4	90	W	5.2	2.3			10	N	S	0.02	0.5	Thunder-storm	
Cuttack	29.51	749.5	29.59	751.6	80.0	26.7	82	W	3.0	1.3			9			1.46	37.1	Drizzling	
Calcutta (Alipore)	29.51	749.6	29.53	750.1	82.2	27.9	83	SSW	4.0	1.8			6	ESE		0	0	D. clouds	
Goalpara	29.20	741.8	29.59	751.5	82.2	27.9	89	Calm	1.2	0.5			10		S	0.30	7.6	Drizzling	
Chittagong	29.55	750.7	29.64	752.9	80.1	26.7	93	Calm	6.9	3.1			10			0	0	Misty	
Sibsagar	29.28	743.6	29.61	752.1	83.2	28.4	87	SW	8.0	1.3			10	W	W	0.02	0.5	D. cloud	
Jubbulpore	28.24	717.2	29.58	751.3	83.6	28.7	69	NW	5.0	2.2			4		W	0.22	5.6	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 663.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.58	751.4	29.97	761.3	77.9	25.5	37	E	4.9	2.2	.....	.....	5	.....	.....	0	0	....	Prof. Giovanni Clodig.
Milan	29.43	747.5	29.92	760.0	84 0	28.9	48	ESE	.....	.....	6	.....	5	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.84	758.0	29.95	760.7	79.7	26.5	47	E	7.4	3.3	.....	.....	6	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.04	737.6	29.91	759.6	81.9	27.7	50	SE	3.8	1.7	.....	.....	4	NNW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.78	756.5	29.97	761.1	77.7	25.4	60	SW	4.9	2.2	.....	.....	0	. . .	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.07	712.9	29.89	759.1	80.8	27.1	45	N	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.88	758.9	29.93	760.1	80.4	26.9	39	NE	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.72	754.8	29.96	761.0	82.8	28.2	35	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.90	759.5	29.98	761.5	78.8	26.0	65	W	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.9	29.97	761.2	86.5	30.3	48	SW	15.0	6.7	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.68	753.9	29.93	760.1	88.2	31.2	31	ESE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.1	29.94	760.5	92.1	33.4	58	NW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	756.8	29.98	761.5	91.4	33.0	40	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.4	29.98	761.6	84.7	29.3	48	E	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.1	29.96	760.9	92.5	33.6	27	SSW	4.9	2.2	.....	.....	1	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.7	30.03	762.8	84.9	29.4	54	WSW	0.7	0.3	.....	.....	0	.....	.....	0	0	....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.62	752.3	29.63	752.6	77.8	25.4	96	NE	4.6	2.1	.....	.....	10n	.....	.....	0.727	18.47	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.53	750.0	29.72	754.9	80.3	26.8	87	WSW	17.1	7.6	.....	.....	2s	.....	.....	1.850	46.99	Clear.....	S. Takehayashi.
Tokei (Yeddo) Observatory.	29.58	751 3	29.64	752.8	73.7	23.2	94	SE	1.9	0 8	.....	.....	10n	.....	.....	0.370	9 40	Raining... ...	The Staff.
Wakayama	29.55	750.6	29.60	751 8	77.9	25.5	92	WSW	1.7	0.8	.....	.....	10n	.....	.....	0.680	17.27	Raining.....	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.10	637.5	30.10	764.6	59.0	15.0	77	SW	.....	.....	1	.....	10	.....	Calm	0.02	0.4	Covered.....	Prof. L. Perez.
Leon	24.46	621.3	30.10	764.6	63.0	17.2	89	SE	.....	.....	1	....	10m	.....	NW	0.35	9.0	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.8	30.05	763.3	58.1	14.5	85	Calm	0	0	.. ..	3ck	5k	.....	.....	0	0	Cloudy.....	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	62 4	16.9	87	Calm	.....	.....	0	.....	10km	.....	.....	0.30	7.5	Raining.....	M. V. de Leon, M. E
Tlacotalpam	29.97	761.1	29.98	761.4	77.0	25.0	90	S	.....	.....	1	10	0	S	.....	.....	.....	Rainy...	Prof. M. M. Chazaro.
San Luis Potosi	24.23	615.4	30.19	766.7	59.0	15.0	59	E	.....	.....	1	4	6	W	E	0	0	Cloudy..	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel'.
Zacatecas	22.67	573 2	30.10	764.4	59.7	15.4	76	W	.....	.....	1	10c	0	ESE	.....	0.95	24.0	Covered.....	A. Nuñez.
Puebla (Catholic Institute)	23.47	596.2	30.23	767.8	54.5	12.5	80	NE	0.4	0.2	.....	.....	7ck	.....	NE	0.82	20.8	Cloudy.....	Prof. F. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.73	755.1	30.03	762.4	75.6	24.2	95	SE	.....	.....	5	.....	10n	.....	SW	0.04	1.0	Rainy.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,589.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.6	29.91	759.6	67.5	19.7	.....	W	.....	.....	3	.....	.....	.....	.....	0.079	2.0	.....	
Groningen	29.78	756.4	29.84	757.8	66.0	18.9	.....	SW	.....	.....	1	.....	.....	.....	.....	0.016	0.4	.....	
Helder	29.84	757.8	29.84	757.8	63.3	17.4	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.80	756.5	29.86	758.5	64.0	17.8	78	W	.....	.....	3	.....	.....	.....	.....	0.161	4.1	.....	
Utrecht	29.82	757.3	29.86	758.5	64.9	18.3	86	WSW	.....	.....	2	.....	8	.....	.....	0.272	6.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.60	751.8	29.65	753.2	60.8	16.0	81	S	9.2	4.1	.....	.....	8	.....	.....	0.083	2.1	.....	
Brönö	29.65	753.2	29.69	754.2	78.8	26.0	42	SSE	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.51	749.5	29.65	753.1	57.2	14.0	88	NNW	2	1	.....	.....	10	.....	.....	.....	.....	Raining	
Tromsö	29.76	755.9	29.80	757.0	63.7	17.6	62	NE	9	4	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.03	762.8	30.22	767.5	77.0	25.0	77	WSW	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.1	30.01	762.2	95.9	35.5	20	SW	3.3	1.4	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.02	762.6	30.11	764.8	73.8	23.2	74	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.7	30.10	764.5	81.7	27.6	37	N	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.20	767.0	30.28	769.2	78.4	25.8	65	SW	8.7	3.9	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea	.....	.....	30.05	763.2	69 8	21.0	.....	NW	.....	.....	1	.....	8	.....	NW	1	NW	D. clouds.....	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.04	763.1	79.2	26.2	.....	NE	.....	.....	3	.....	10	.....	NE	1	.....	Overcast..	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A. de Brito Capello, N. 7° 50′, W. 10° 10′?	.....	.....	30.07	763.7	78.8	26.0	.....	S	.....	.....	3	.....	5	.....	S	3	S	D. clouds, 2 hr's rain-fall.]	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.92	759.9	81.0	27.2	.....	ESE	.....	.....	2	.....	4	.....	ESE	1	SE	D. clouds.....	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.50	749.2	29.91	759.7	63.0	17.2	67	WSW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.41	747.1	29.83	757.6	58.8	14.9	81	SW	2	1	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.50	749.2	29.73	755.1	70.5	21.4	59	SE	11	5	.....	.....	8k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.64	757.8	29.85	758.2	69.6	20.9	55	SE	13	6	.....	.....	7kns	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.22	742.2	29.84	757.9	66.0	18.9	61	NW	13	6	.....	.....	5k;cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.76	755.9	29.83	757.7	72.9	22.7	58	NW	9	4	.....	.....	7cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.94	760.5	29.96	761.0	79.7	26.5	78	WSW	4	2	.....	.....	4	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.34	745.3	29.87	758.7	66.2	19.0	82	S	4	2	.....	.....	9ks	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Lugan	29.62	752.4	29.82	757.4	81.1	27.3	40	E	4	2	.....	.....	6	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	30.01	762.3	30.03	762.8	64.8	17.9	71	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.47	723.0	29.79	756.7	87.4	30.8	33	SE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.89	759.3	29.81	757.2	80.2	26.8	26	NW	13	6	.....	.....	1k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.33	744.9	29.78	756.4	65.8	18.8	72	N	7	3	.....	.....	9	.....	.....	.....	.....	Light rain...	Cand. Fatjanow.
Kasan	29.53	750.1	29.79	756.6	72.9	22.7	51	NNW	13	6	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.75	730.3	29.68	753.9	63.5	17.5	61	NE	13	6	.....	.....	7cks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.56	750.9	29.78	756.5	82.8	28.2	35	WNW	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.21	716.4	29.67	753.5	85.6	29.8	62	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.11	739.4	29.59	751.5	65.3	18.5	64	NW	4	2	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.27	743.5	29.54	750.4	68.5	20.3	60	NW	2	1	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.55	750.5	29.69	754.1	78.3	25.7	93	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Thunder-storm..	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.75	755.6	29.85	758.1	62.2	16.8	94	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.96	761.0	30.06	763.5	82.0	27.8	59	S	5.5	2.44	.....	.....	0	.....	.....	0	0	Misty	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.13	765.2	30.18	766.6	81.0	27.2	46	W	2.7	1.21	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.21	691.1	.....	.....	83.3	28.5	37	NE	5.1	2.29	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.85	708.2	29.93	760.1	98.2	36.8	23	SW	5.2	2.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.92	760.0	30.07	763 6	91.4	33.0	51	NE	4.2	1.89	.....	1	3	NE	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.4	30.10	764.4	75.9	24.4	61	NE	8.7	3.9	.....	0	2	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.97	761.2	30.01	762.9	82.2	27.9	82	E	1.1	0.5	.....	0	0	.....	.....	0	0	Clear ..	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.7	29.93	760.1	82.4	28.0	94	NE	2.2	1.0	.....	.....	10m	.....	W	0.291	7.4	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	761.9	30.09	764.3	87.4	30.8	53	W	8.2	3.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.8	30.00	762.1	82.0	27.8	79	SE	0	0	.....	5ks	4k	SE	SE	0.217	5.50	D. clouds	Leonardo deTejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, o 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, Corrected for instru-m'tal error and temperature. Inches.	Barometer, Corrected for instru-m'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.87	758.6	29.91	759.6	73.4	23.0	.....	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.80	757.0	29.85	758.3	76.3	24.6	55	E	.....	.....	4	.....	8	.....	.....	0	0	.....	
Hernosand	29.75	755.6	29.80	756.9	68.0	20.0	91	NE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Stockholm	29.41	746.9	29.58	751.4	68.9	20.5	68	E	.....	.....	7	.....	10	.....	.....	0.181	4.6	.....	
Wisby	29.44	747.7	29.50	749.2	57.6	14.2	92	NNW	.....	.....	7	.....	10	.....	.....	0.217	5.5	.....	
Sub-Series.																			
Upsala	29.51	749.6	29.60	751.8	70.5	21.4	59	ESE	11.2	5.0	.....	.....	5	.....	ESE	0.016	0.4	.....	Nils Ekholm
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.67	728.1	30.04	762.9	73.9	23.3	49	NW	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.46	722.5	30.03	762.8	69.1	20.6	58	W	.....	.....	2	.....	3	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.3 mm.; Thermometer, +1.1 Cent.; Relative Humidity, —5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.1	80.8	27.1	52	NNE	11	5.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.0	87.1	30.6	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.76	755.9	89.8	32.1	50	WSW	.....	.....	2	.....	4k	.....	W	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.83	757.7	29.89	759.2	61	16.1	82	SE	2	0.9	.....	2k	0	E	.....	0	0	Fair	G. A. Biah
Charlottetown, P. E. Island	29.82	757.4	29.87	758.7	62	16.7	74	N	9	4.0	.....	2cs	2s	W	N	Inap.	Inap.	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.46	748.3	29.65	753.1	67.9	19.9	78	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.72	754.9	29.88	758.9	60.0	13.3	82	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.83	757.7	29.85	758.2	51	10.6	86	NE	6	2.7	.....	8ck	2s	NW	Calm	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.90	759.4	58.8	14.9	79	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.93	745.0	30.15	765.8	51	10.6	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.81	731.8	29.80	759.2	57	13.9	94	NW	.....	.....	2	1cs	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.76	755.9	29.89	759.2	65	18.3	74	N	1	0.4	.....	5cs	2ks	.....	NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.55	750.6	29.90	759.4	58.1	14.5	73	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.41	747.0	29.73	755.1	63	17.2	81	W	6	2.7	.....	2cs	8ks	SW	SW	0.02	0.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.75	755.6	29.79	756.7	60.7	15.9	91	NE	9	4.0	.....	7k	0	N	.....	0.86	21.8	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.50	749.3	29.69	754.1	65	18.3	73	S	1	0.4	.....	2c	8ks	W	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.80	756.9	56	13.3	75	W	11	4.9	.....	2ck	5ks	W	W	0.17	4.3	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.08	738.6	29.81	757.2	60.5	15.8	71	NW	.....	.....	4	2k	0	.....	.....	0.14	3.6	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.90	759.4	57	13.9	87	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	64.6	18.1	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.28	743.7	29.91	759.7	59	15.0	78	W	9	4.0	.....	2k	0	W	.....	Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	29.45	748.0	29.76	755.9	62	16.7	88	NE	.....	.....	5	0	2s	.....	NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.30	744.2	29.75	755.6	61	16.1	61	NW	10	4.5	.....	.....	Fog	.....	NW	0.53	13.5	Fair	W. H. McIntyre.
St. Andrews, N. B	29.70	756.7	29.84	757.9	59	15.0	79	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.68	753.9	29.85	758.2	59	15.0	82	NE	2	0.9	.....	0	7cs	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.89	759.2	57	13.9	71	W	25	11.2	.....	.....	10n	.....	NW	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	29.77	756.1	29.81	757.2	61	16.1	75	NW	10	4.5	.....	.....	10kc	.....	N	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.49	749.0	29.87	758.7	57	13.9	64	NW	20	8.9	.....	0	0	.....	.....	0.50	12.7	Clear	Prof. John E. Oram.
Woodstock, Ontario	29.85	758.2	29.87	758.7	63.0	17.2	78	W	1	0.4	.....	4k	0	.....	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.12	765.0	57.0	13.9	87	S	.....	.....	.....	.....	10n	.....	.....	0.80	20.3	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.55	750.6	29.77	756.1	66	18.9	84	S	2	0.9	.....	.....	10s	.....	S	0.11	2.8	Cloudy	
Alpena, Michigan	29.30	744.2	29.93	760.2	53	11.7	73	NW	22	9.8	.....	0	5s	.....	NW	0	0	Fair	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	50	10.0	100	W	6	2.7	.....	.....	10s	.....	W	0.09	2.3	Cloudy	
Atlanta, Georgia	28.79	731.3	29.88	758.9	76	24.4	76	W	8	3.6	.....	5k	0	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	29.72	754.9	29.74	755.4	77	25.0	91	W	9	4.0	.....	10k	0	W	.....	0.08	2.0	Cloudy	
Augusta, Georgia	29.75	755.6	29.94	760.5	80	26.7	59	SW	4	1.8	.....	Haze	0	Calm	.....	0.15	3.8	Clear	
Baltimore, Maryland	29.74	755.4	29.79	756.7	75	23.9	86	NW	4	1.8	.....	10k	0	W	.....	0.54	13.7	Cloudy	
Barnegat, New Jersey	29.70	754.4	29.72	754.9	76	24.4	91	W	12	5.4	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Bismarck, Dakota	28.38	720.8	30.24	768.1	51	10.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.49	723.6	29.74	755.4	77	25.0	82	SE	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Boise City, Idaho	27.19	690.6	30.15	765.8	61	16.1	45	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Boston, Massachusetts	29.65	753.1	29.80	756.9	63	17.2	89	E	5	2.2	.....	0	8ks	.....	SW	0.05	1.3	Clearing	
Brackettville, Texas	28.78	731.0	29.77	756.1	76	24.4	73	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	29.15	740.4	30.16	766.1	48	8.9	93	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.56	758.4	29.91	759.7	81	27.2	83	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.18	741.1	29.86	758.4	58	14.4	64	NW	12	5.4	.....	8cs;ck	0	Calm; W	.....	Inap.	Inap.	Fair	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	43	S	.....	.....	1	2cs	0	S	.....	0	0	Clear	
Burlington, Vermont	29.45	748.0	29.72	754.9	67	19.4	69	S	5	2.2	.....	8ck	0	W	.....	0	0	Fair	
Cairo, Illinois	29.63	752.6	30.01	762.2	70	21.1	70	N	13	5.8	.....	5ck	2s	W	N	0.04	1.0	Fair	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	29.85	758.2	29.86	758.4	82	27.8	87	SW	21	9.4	.....	5cs	Haze	SW	.....	0.12	3.0	Hazy	
Cape Henry, Virginia	29.87	758.7	29.89	759.2	81	27.2	78	SW	6	2.7	.....	1ck	1s	Calm	Calm	0.01	0.3	Fair	
Cape Lookout, N. Carolina	29.85	758.2	29.86	758.4	83	28.3	87	SW	25	11.2	.....	Haze	2n	Calm	SW	Inap.	Inap.	Light rain	
Cape May, New Jersey	29.82	757.4	29.85	758.2	76	24.4	90	W	12	5.4	.....	8ck	2ks	W	W	0.03	0.8	Cloudy	
Castroville, Texas	29.15	740.4	29.82	757.4	80	26.7	74	S	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	29.86	758.4	29.91	759.7	83	28.3	75	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.04	737.6	29.80	756.9	81	27.2	76	W	3	1.3	.....	2c	Sm'e	Calm	Calm	0.68	17.3	Fair	
Chattanooga, Tennessee	29.14	740.1	29 90	759.4	75	23.9	88	SW	5	2.2	.....	5ck	1s	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	24.29	617.0	30.23	767.8	49	9.4	78	NW	9	4.0	.....	0	0	.....	.....	0.12	3.0	Clear	
Chicago, Illinois	29.36	745.7	30.03	762.7	65	18.3	54	N	7	3.1	.....	0	2s	.....	N	0	0	Fair	
Cincinnati, Ohio	29.32	744.7	29.95	760.7	66	18.9	64	N	11	4.9	.....	9k	0	W	.....	1.08	27.4	Clearing	
Cleveland, Ohio	29.23	742.4	29.93	760.2	63	17.2	62	N	10	4.5	.....	5k	0	NW	.....	0.01	0.3	Fair	
Coleman City, Texas	28.14	714.7	29.75	755.1	73	22.8	85	SW	2	0.9	.....	.....	10n	.....	SW	1.18	30.0	Light rain	
Columbus, Ohio	29.11	739.4	29.91	759.7	67	19.4	73	N	5	2.2	.....	5k	Sm'e	N	Calm	0.72	18.3	Fair	
Concho, Texas	28.03	711.9	29.64	752.8	70	21.1	100	NE	5	2.2	.....	.....	10n	.....	Calm	3.34	84.8	Raining	
Corsicana, Texas	29.50	749.3	29.94	760.5	80	26.7	78	SE	4	1.8	.....	0	8ks	.....	S	0.11	2.8	Cloudy	
Davenport, Iowa	29.48	748.8	30.11	764.8	56	13.3	75	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.61	650.5	.....	.....	53	11.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.77	730.7	29.89	759.2	73	22.8	85	S	9	4.0	.....	.....	10s	.....	S	3.00	76.2	Cloudy	
Denison, Texas	29.18	741.1	29.94	760.5	73	22.8	95	SE	4	1.8	.....	.....	10n	.....	Calm	0.09	2.3	Light rain	
Denver, Colorado	25.01	635.2	30.23	767.8	56	13.3	81	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.28	743.7	30.17	766.3	54	12.2	74	Calm	0	0	.....	2c	0	NW	.....	0	0	Clear	
Detroit, Michigan	29.32	744.7	29.98	761.5	56	13.3	75	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.59	700.8	29.86	758.4	58	14.4	88	NE	8	3.6	.....	5ck	0	W	.....	1.18	30.0	Fair	
Dubuque, Iowa	29.42	747.3	30.12	765.0	55	12.8	74	NW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.43	747.5	30.10	764.5	56	13.3	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.11	739.4	29.80	756.9	81	27.2	74	SE	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Eastport, Maine	29.80	756.9	29.86	758.4	55	12.8	81	N	7	3.1	.....	10c	Haze	W	Calm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	80	26.7	96	S	.....	.....	5	2c	0	Calm	.....	0	0	Fair	
El Paso, Texas	26.31	668.3	.....	.....	65	18.3	94	NE	1	0.4	.....	.....	10s	.....	NE	0.35	8.9	Cloudy	
Erie, Pennsylvania	29.22	742.2	29.92	760.0	60	15.6	60	N	12	5.4	.....	2k	0	N	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.39	746.5	30.04	763.0	52	11.1	73	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.47	723.1	30.07	763.8	78	25.6	57	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.14	714.7	29.96	761.0	53	11.7	86	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	61	16.1	94	N	5	2.2	.....	.....	10n	.....	N	1.79	45.5	Light rain	
Fort Gibson, Indian Ter	29.50	749.3	30.02	762.5	67	19.4	95	N	9	4.0	.....	.....	10n	.....	Calm	1.85	47.0	Light rain	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	73	22.8	85	NE	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.69	728.7	29.91	759.7	71	21.7	90	N	4	1.8	.....	.....	10n	.....	Calm	1.30	33.0	Light rain	
Fort Keogh, Montana	27.58	700.5	.....	.....	56	13.3	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.53	750.0	72	22.2	90	W	4	1.8	.....	.....	10s	.....	Calm	2.12	53.8	Threatening	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.87	758.7	63	17.2	100	NE	20	8.9	.....	.....	10n	.....	NE	2.03	51.6	Light rain	
Fort Stevenson, Dakota	28.30	720.1	.....	.....	50	10.0	86	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Fort Verde, Arizona	.....	.....	.....	.....	74	23.3	76	W	.....	.....	1	1c	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.20	716.3	29.68	753.9	77	25.0	73	S	4	1.8	.....	0	5ks	.....	Calm	0.08	2.0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	84	28.9	75	SW	7	3.1	.....	2c	2ks	Calm	SW	0	0	Fair	
Graham, Texas	28.87	733.3	29.88	758.9	74	23.3	73	SE	2	0.9	.....	.....	10n	.....	SE	2.71	68.8	Light rain	
Grand Haven, Michigan	29.40	746.7	30.03	762.7	63	17.2	52	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.87	758.7	70	21.1	100	E	5	2.2	.....	.....	10n	.....	E	1.83	46.5	Heavy rain	
Indianapolis, Indiana	29.22	742.2	29.97	761.2	65	18.3	54	N	6	2.7	.....	5cs	0	W	S	0.56	14.2	Fair	
Indianola, Texas	29.94	760.5	29.96	761.0	83	28.3	79	S	14	6.3	.....	1c	1ks	Calm	S	0	0	Clear	
Jacksboro, Texas	28.80	731.5	29.88	758.9	74	23.3	91	S	6	2.7	.....	.....	10n	.....	S	2.00	50.8	Heavy rain	
Jacksonville, Florida	29.99	761.7	30.02	762.5	86	30.0	68	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.46	748.3	30.07	763.8	60	15.6	77	N	8	3.6	.....	2c	0	SW	.....	0	0	Clear	
Key West, Florida	30.02	762.6	30.05	763.3	82	27.8	83	N	6	2.7	.....	2k	8n	NE	NE	0.10	2.5	Heavy rain	
Kittyhawk, North Carolina	29.77	756.1	29.79	756.7	82	27.8	79	W	18	8.0	.....	1c	Haze	W	Calm	Inap.	Inap.	Fair	
Knoxville, Tennessee	28.94	735.1	29.89	759.2	74	23.3	95	SW	3	1.3	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
La Crosse, Wisconsin	29.41	747.0	30.14	765.5	54	12.2	80	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.15	664.2	30.30	769.6	66	18.9	84	N	1	0.4	.....	0	8s	.....	N	Inap.	Inap.	Cloudy	
Laredo, Texas	29.44	747.8	29.76	755 9	90	32.2	57	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.30	744.2	30.14	765.5	61	16.1	71	N	3	1.3	.....	1cs	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.68	753.9	30.02	762.5	73	22.8	90	NE	4	1.8	.....	.....	10s	.....	NE	0.32	8.1	Cloudy	
Los Angeles, California	29.57	751.1	29.99	759.4	61.0	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.39	746.5	29.93	760.2	69	20.6	52	SW	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.18	741.1	29.81	757.2	77	25.0	82	W	2	0.9	.....	.....	10s	.....	SW	0.53	21.1	Cloudy	
Madison, Wisconsin	29.10	739.1	30.05	764.0	56	13.3	75	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.32	744.7	30.01	762.2	54	12.2	67	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.31	719.9	29.99	761.7	77	25.0	86	S	1	0.4	.....	.....	10s	.....	S	0.50	12.7	Threatening	
Memphis, Tennessee	29.65	753.1	29.98	761.5	75	23.9	85	Calm	0	0	.....	0	10s	.....	N	0.50	12.7	Cloudy	
Milwaukee, Wisconsin	29.34	745 2	30.06	763.5	56	13.3	57	NW	10	4.5	.....	1k	0	Calm	.....	Inap.	Inap.	Clear	
Mobile, Alabama	29.96	761.0	30.01	762.2	80	26.7	87	NW	6	1.7	.....	2cs	2ks	Calm	NE	0.18	4.6	Fair	
Montgomery, Alabama	29.77	756.1	29.99	761.7	75	23.9	90	W	2	0.9	.....	.....	10n	.....	W	1.52	38.6	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r (—10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Morgantown, West Virginia	28.88	733.5	29.62	757.4	73	22.8	81	W	6	2.7	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Mt. Washington, N. H.	28.75	603.2	30.11	764.8	48	8.9	62	S	16	7.2	.....	5ck	5ks;sme	SW	SW;Calm	0	0	Cloudy.	
Nashville, Tennessee	29.41	747.0	29.92	760.0	77	25.0	82	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy.....	
New Haven, Connecticut	29.64	752.8	29.75	755.6	62	16.7	97	NE	12	5.4	.....	.....	10n	.....	Calm	0.54	13.7	Light rain..	
New London, Connecticut	29.71	754.6	29.76	755.9	67	19.4	95	NE	7	3.1	.....	.....	10n	.....	Calm	0.27	6.9	Heavy rain.	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	80	26.7	87	SW	2	0.9	.....	5c	Haze	Calm	Calm	0.36	9.1	Hazy.....	
Newport, Rhode Island	29.74	755.4	29.78	756.4	65	18.3	94	NE	7	3.1	.....	.....	10n	.....	Calm	0.22	5.6	Heavy rain..	
New York, New York	29.57	751.1	29.78	756.1	70	21.1	95	NE	8	3.6	.....	.....	10n;fg	.....	.....	0.34	8.6	Light rain..	
Norfolk, Virginia	29.74	755.4	29.80	756.9	84	28.9	75	SW	10	4.5	.....	1ck	0	SW	.....	0	0	Clear.	
North Platte, Nebraska	27.28	692.9	29.80	756.9	62	16.7	83	SE	7	3.1	.....	2k	8s	Calm	SE	0	0	Cloudy.....	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	48.0	8.9	93	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Omaha, Nebraska	29.64	737.6	30.12	765.0	59	15.0	76	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.47	748.5	29.78	756.4	66	18.9	74	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Pembina, Dakota	29.27	743.4	30.10	764.5	47	8.3	92	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Phuadelphia, Pa	29.69	754.1	29.78	756.1	74	23.5	86	W	9	4.0	.....	.....	10ks; fg	.....	NW;Calm	0.62	15.7	Cloudy	
Phœnix, Arizona	28.75	730.2	30.46	773 7	80	26.7	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	18.05	458.5	30.26	768.6	31	— 0.6	69	N	22	9.8	.....	0	0	.....	.....	0.20	5.1	Clear.....	
Pilot Point, Texas	29.06	738.1	29.83	757.7	81	27.2	95	N	13	5.8	.....	.....	10n	.....	N	0.06	1.5	Heavy rain.	
Ploche, Nevada	.....	.....	.....	.....	60	15.6	44	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.08	738.6	29.86	758.4	64	17.8	78	NW	10	4.5	.....	.....	10s	.....	NW	0.91	23.1	Cloudy.....	
Port Huron, Michigan	29.29	744.0	29.94	760.5	56	13.3	63	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	29.76	755.9	29.81	757.2	63	17.2	83	Calm	0	0	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Portland, Oregon	29.99	761.7	30.06	763.5	57.(	14.2	81	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona	24.82	630.4	30.16	766.0	64	17.8	73	SW	.....	.....	1	8ck	0	W	.....	0	0	Cloudy.....	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	83	28.3	75	N	6	2.7	.....	2cs	0	SW	.....	0	0	Fair	
Red Bluff, California	29.49	749.0	29.83	757.7	76	24.4	34	NW	5	2.2	.....	2c	Haze	SE	Calm	0	0	Fair.....	
Rio Grande City, Texas	29.71	754.6	29.92	760.0	80	26.7	78	SE	14	6.3	.....	2c	0	N	.....	0	0	Clear.....	
Rochester, New York	29.23	742.4	29.82	757.4	62	16.7	72	NW	12	5.4	.....	2k	2s	NW	Calm	0	0	Fair	
Roseburg, Oregon	29.48	748.8	30.04	763.0	56	13.3	81	Calm	0	0	.....	1k	0	SW	.....	0	0	C ear.....	
Sacramento, California	29.76	755.9	29.84	757.9	64	17.8	68	S	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear.....	
St. Louis, Missouri	29.49	749.0	30.05	763.3	63	17.2	62	N	12	5.4	.....	8cc	0	Calm	.....	0	0	Fair.....	
St. Marks, Florida	30.00	762.0	30.01	762.2	81	27.2	91	W	1	0.4	.....	2cs	0	Calm	.....	0	0	Clear.....	
St. Paul, Minnesota	29.29	744.0	30.11	764.8	56	13.3	68	W	2	0.9	.....	0	0	. .....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	76	24.4	17	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.26	742.9	29.80	756.9	80	26.7	78	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Clear.....	
San Diego, California	29.86	758.4	29.93	760.2	66	18.9	59	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.33	745.0	29.99	761.7	62	16.7	61	N	17	7.6	.....	0	0	.....	.....	0	0	Clear...	
Sandy Hook, New Jersey	29.69	754.1	29.72	754.9	71	21.7	100	N	9	4.0	.....	.....	Fog	.....	Calm	1.28	32.5	Foggy	
San Francisco, California	29.82	757.4	29.88	758.9	53	11.7	86	W	10	4.5	.....	0	Fog	.....	W	0	0	Clear.....	
Santa Fé, New Mexico	23.47	596.1	30.01	762.2	56	13.3	60	Calm	0	0	.....	8ck	0	Calm	.....	0.71	18.0	Fair.....	
Savannah, Georgia	29.87	758.7	29.96	761.0	67	30.6	69	W	7	3.1	.....	5ck	0	W	.....	0	0	Fair.....	
Shreveport, Louisiana	29.76	755.9	29.96	761.0	80	26.7	82	S	2	0.9	.....	0	8s	.....	W	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.89	759.2	29.92	760.0	83	28.3	87	W	14	6.3	.....	0	1ks	.....	W	0	0	Clear.....	
Socorro, New Mexico	25.55	649.0	29.61	752.1	65	18.3	68	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Springfield, Ill	29.41	747.0	30.07	763.8	59	15.0	70	N	8	3.6	.....	5c	0	W	.....	0	0	Fair.....	
Springfield, Massachusetts	29.66	753.4	29.78	756.4	64	17.8	94	N	3	1.3	.....	.....	10n	.....	E	0.18	4.6	Light rain..	
Stockton, Texas	26.90	683.2	29.90	759.4	70	21.1	13	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Thatcher's Island, Mass	29.82	757.4	29.88	758 9	64	17.8	94	SE	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	
Toledo, Ohio,	29.30	744.2	29.97	761.2	60	15.6	65	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.55	699.8	30.10	764.5	79	26.1	78	Calm	0	0	.....	2c	0	Calm	.....	0.08	2.0	Fair.....	
Umatilla, Oregon	29.58	751.3	30.05	763.3	72.0	22.2	42	Calm	0	0	.....	0	Haze	.....	W	0	0	Fair.....	
Uvalde, Texas	29.90	736.6	29.78	756.4	77	25.0	82	E	6	2.7	.....	5c	0	Calm	.....	0.51	13.0	Fair	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	77	25.0	91	SW	3	1.3	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Virginia City, Montana	24.47	621.5	29.95	760.7	53	11.7	36	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.48	748.8	29.84	757.9	62	16.7	64	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.69	754.1	29.79	756.7	75	23.9	77	NW	4	1.8	.....	5cs	0	W	.....	0.11	2.8	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.79	756.7	29.87	758.7	83	28.3	71	SW	9	4.0	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	62	16.7	22	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.73	755.1	29.77	756.1	67	19.4	84	SE	12	5.4	.....	.....	10n	.....	.....	0.04	1.0	Light rain..	
Yankton, Dakota	28.93	734.8	30.22	767.6	57	13.9	76	Calm	0	0	.....	10k	0	NW	.....	0	0	Cloudy.....	
Yuma, Arizona	29.74	755.4	29.90	759.4	83	28.3	75	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	84	28.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	J. B. Gordon.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	81	27.2	83	N	1	0.4	.....	8c	0	N	.....	0	0	Fine.....	Chas. Hasselbrink.
Medellin, Colombia, S. A. *	25.27	641.8	.....	.....	65.5	18.6	82	Calm	.....	.....	0	2cs	7s;ks	.....	.....	0.17	4.3	.....	James Gall.
Navassa, W. I	29.91	759.7	29.99	761.7	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0.50	12.7	Fair.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.01	762.2	30.01	762.2	81	27.2	83	SE	.....	.....	2	3c	4k	E	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	29.63	752.6	29.64	752.8	80	26.7	82	E	10	4.5	.....	3k	2n	NE	.....	0.26	6.6	Cloudy	G. O. Gellich.
.....	29.75	755.6	29.80	756.9	44.0	6.7	96	SW	14	6.3	.....	2c	0	S	.....	0	0	Fair	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.: Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10‡	764.5‡	.....	.....	84	28.9	87	NW	3	1.3	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.69‡	754.1‡	.....	.....	73	22.8	90	E	.....	.....	3	.....	10n	.....	NE	0.34	8.6	.....	.....	Light rain	
Adams, Mare I'd, Navy Yard, Cal.	29.91‡	759.7‡	.....	.....	61	16.1	94	SSW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alliance, Stockholm, Sweden	29.60‡	761.8‡	.....	.....	70	21.1	70	ENE	.....	.....	2-3	.....	5	.....	E	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.64‡	752.8‡	.....	.....	73	22.8	95	ENE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining	
Colorado, New York, N. Y.	29.71‡	754.6‡	.....	.....	70	21.1	95	NE	2	0.9	.....	.....	10	.....	.....	0.95	24.1	.....	.....	Threatening	
Constitution, Navy Yard, Brooklyn, N.Y.	29.75‡	755.6‡	.....	.....	69	20.6	??	NNE	.....	.....	1	.....	10	.....	NNE	.....	.....	.....	.....	Rainy	
Enterprise, Kiel, Germany	29.85‡	758.2‡	.....	.....	62	16.7	77	WSW	.....	.....	2	.....	9	.....	W	.....	.....	Smooth	.....	Cloudy	
Essex, S 28° 54′, W 45° 57′	29.86‡	758.4‡	.....	.....	65	18.3	94	W	.....	.....	5	.....	10	.....	WSW	.....	.....	Mod'ate	WSW	Rainy	
Franklin, Norfolk, Va.	29.81‡	757.2‡	.....	.....	80	26.7	87	SW	8	3.6	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Hartford, Rio de Janeiro, Brazil	30.04‡	763.0‡	.....	.....	70	21.1	65	NNE	1	0.4	.....	.....	8	.....	NE	0	0	.....	.....	Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.93‡	760.2‡	.....	.....	62	16.7	83	SW	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Shediac, New Brunswick.	29.88‡	758.9‡	.....	.....	66	18.9	74	NNE	.....	.....	1	.....	3	.....	NNE	.....	.....	.....	.....	Clear	
Michigan, Chicago, Ill.	29.99‡	761.7‡	.....	.....	65	18.3	68	NNE	.....	.....	4	.....	2	.....	NNE	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	29.77‡	756.1‡	.....	.....	82	27.8	91	WSW	.....	.....	1	.....	2	.....	WSW	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.65‡	753.1‡	.....	.....	76	24.4	86	NE	.....	.....	1	.....	n	.....	.....	Mod'ate	Mod'ate	.....	.....	Raining	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡	.....	.....	81	27.2	87	W	16	7.2	.....	.....	2	.....	Calm	0.03	0.8	.....	.....	Fair	
Onward, Callao, Peru	30.03‡	762.7‡	.....	.....	63	17.2	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Cloudy	
Palos, Shanghai, China	29.79‡	756.7‡	.....	.....	80	26.7	100	W	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	78	25.6	86	WNW	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	61	16.1	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Portsmouth, N. H	29.83‡	757.7‡	.....	.....	62	16.7	88	E	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Powhatan, N. 26° 23′, W 80° 01′	30.06‡	763.5‡	.....	.....	86	29.4	76	S	.....	.....	2	.....	8	.....	S	0	0	Smooth	.....	Cloudy	
Quinnebaug, N. 43° 52′, E. 14° 58′	29.92‡	760.0‡	.....	.....	53	28.3	67	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Ranger, Nagasaki, Japan	30.11‡	764.8‡	.....	.....	85	29.4	87	SW	.....	.....	4	.....	10?	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.61‡	752.1‡	.....	.....	75	23.9	95	E	.....	.....	1	.....	10	.....	.....	0.16	4.1	Chop	SE	Raining	
Rio Bravo, Brownsville, Texas	29.92‡	760.0‡	.....	.....	79	26.1	95	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.	29.79‡	756.1‡	.....	.....	76	24.4	91	NW	.....	.....	.....	.....	8	.....	W	0.25	6.3	.....	.....	Cloudy	
Saratoga, New Bedford, Mass.	29.80‡	756.9‡	.....	.....	69	20.6	65	SW	.....	.....	1	.....	10	.....	SW	Light	Light	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.76‡	755.9‡	.....	.....	74	23.3	95	WNW	8	3.6	.....	.....	8	.....	NW	0.5	13.	.....	.....	Cloudy	
Trenton, Grave's End, Eng.	29.87‡	758.7‡	.....	.....	65	18.3	84	SW	.....	.....	0-1	.....	10	.....	ESE	0	0	Smooth	.....	Cloudy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.97‡	761.2‡	.....	.....	62	16.7	88	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Vandalia, Beaufort river, S. C.	29.94‡	760.5‡	.....	.....	81	27.2	87	W	.....	.....	2	.....	5?	.....	W	.....	.....	.....	.....	Clear?	
Wabash, Boston, Mass	29.82‡	757.4‡	.....	.....	68	20.0	95	W	1	0.4	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Wachusett, N. 24° 20′, W. 83° 30′	30.06‡	763.5‡	.....	.....	84	28.9	83	ENE	.....	.....	1	.....	2	.....	SE	.....	.....	Smooth	.....	Fair	
Wyoming, Constantinople, Turkey	29.87‡	758.7‡	.....	.....	79	26.1	62	N	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction						
											Upper	Lower	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 27° 56', W. 116° 02'...†		29.96‡	761.0‡	70	21.1	85	NE			2		8		E	0	Long; easy.	NW; ask	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, Australia		29.70‡	754.4‡				SE			3				SE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 30° 36', E. 131° 57'..†		29.76‡	755.9‡	83	28.3	96	WSW			6		4cs			0	Mod'ate	WSW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 52° 32', E. 3° 41'		29.86‡	758.4‡	67.0	19.4	71	NW			2		5?		NW	10h'rs	Smooth	NW	Cloudy†.....	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 36° 56', W. 76° 00'		29.83‡	757.7‡				SW			3		2		SW		2	SW	Fair	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 45° 42', W. 40° 16'	.....	29.61‡	752.1‡	65	18.3	94	W	.....	.....	3	.....	9	.....	SE	Mod'ate	Light	S	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
S. S. Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen
Schooner Charley Buck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Schooner Harry and Fred.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner.
§Iron Cross, N. 42° 12', W. 12° 34'	.....	30.21‡	767.3‡	73	22.8	81	WSW	.....	.....	1	.....	7	.....	.....	.....	1	NW	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

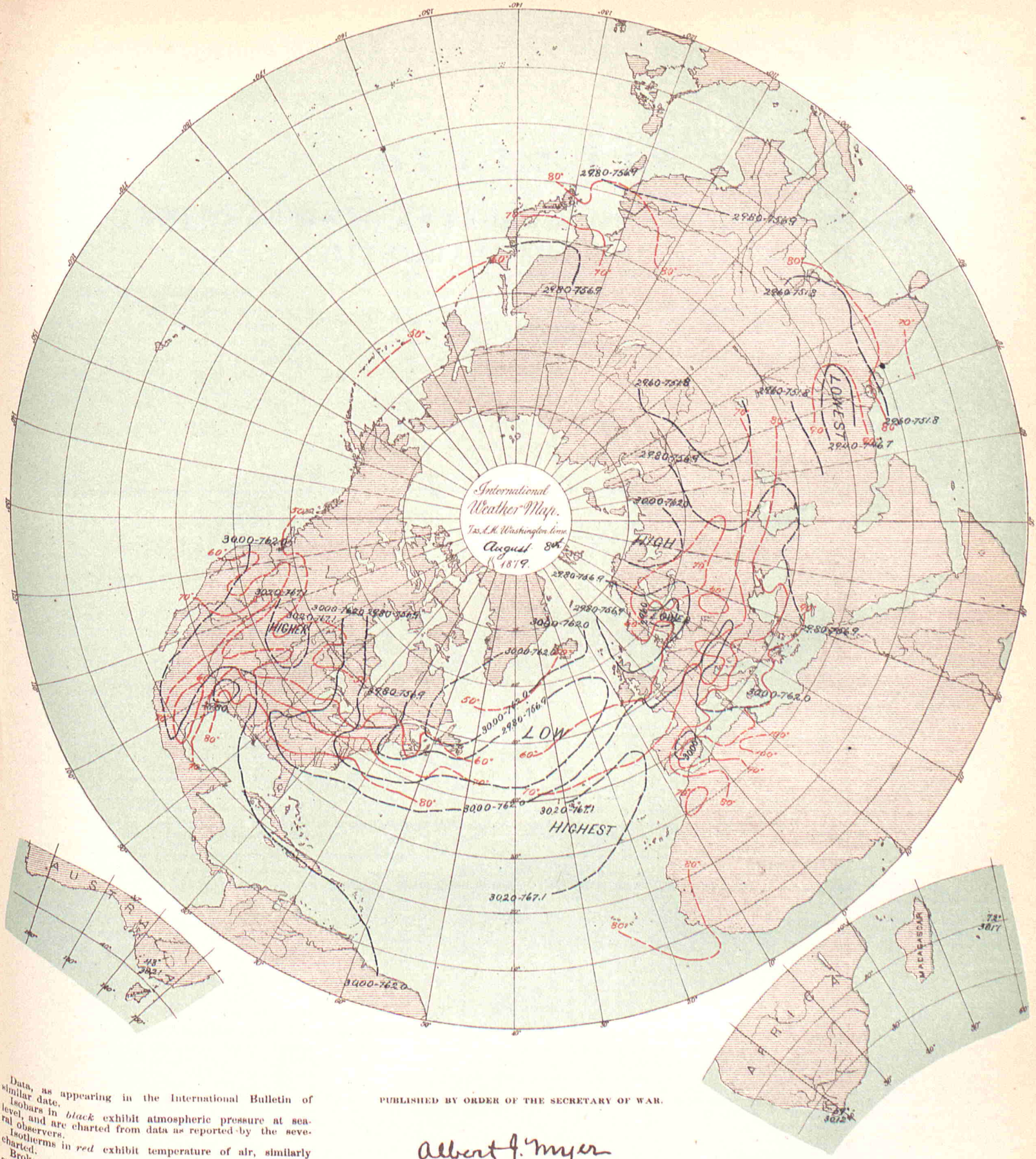
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 9, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.5	69.8	21.0	82	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.11	764.7	82.8	28.2	79	WNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.06	763.5	80.6	27.0	71	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourlliere.
La Calle	.....	.....	30.11	764.7	85.3	29 6	74	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.08	763.9	90.3	32.4	21	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.11	764.8	88.5	31.4	30	E	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	.....	.....	75.6	24.2	53	SSE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.03	762.8	99.0	37 2	27	E	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	30.00	761.9	103.6	39.8	24	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.32	744.7	29.84	757.9	79.9	26.6	50	NE	.....	.....	1	.....	6	.....	.....	0.138	3.5	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.7	29.82	757.4	78.4	23.0	56	SSW	6.3	2.8	.....	.....	8	.....	.....	0.626	15.9	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.02	737.2	29.87	758.6	72.0	22.2	64	S	.....	.....	4	.....	7s	.....	.....	0.105	2.67	.....	Julius Mikolik.
Gratz	28.66	728.0	29.87	758.7	70.0	21.1	83	S	.....	.....	2	.....	5	.....	.....	0.059	1.5	.....	Andreas Rospini.
Hermannstadt	28.55	725.2	29.89	759.2	82.0	27.8	48	E	.....	.....	1	.....	7	.....	.....	0.555	14.1	.....	Prof. A. Gottschling.
Kremsmünster	28.52	724.5	29.83	757.7	63.8	17.4	95	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.93	734.8	29.88	758.9	71.2	21.8	66	E	.....	.....	1	.....	2	.....	.....	0.047	1.2	.....	Dr. T. Stanecki.
Pola	29.78	756.3	29.88	759.0	81.7	27.6	61	SW	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.52	749.9	29.97	761.3	74.8	23.8	53	SE	.....	.....	1	.....	6	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.03	762.5	29.89	759.3	77.7	25.4	49	S	.....	.....	2	.....	3	.....	.....	0.341	8.65	.....	Karl Stancel.
Trieste	29.81	757.2	29.91	759.8	80.6	27.0	64	SW	.....	.....	1	.....	6	.....	.....	0.240	6.1	.....	P. Busin.
Vienna	29.13	739.9	29.88	758.9	71.1	21.7	75	S	.....	.....	3	.....	10	.....	.....	0.031	0.8	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.78	756.4	29.88	758.9	54.7	12.6	.....	NW	23	10.3	.....	.....	6	.....	.....	0.010	0.25	D. clouds...	W. Boswell.
Ardrossan	29.89	759.2	29.91	759.7	58	14.4	.....	NW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.80	756.9	30.02	762.5	57.8	14.3	.....	NNW	3	1.3	.....	.....	9	.....	.....	.....	.....	Overcast....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	56.5	13.6	.....	WNW	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast...	John Hartnup.
Bolton (Sharples)	.....	.....	29.93	760.2	56.6	13.7	.....	W	24	10.7	.....	.....	9	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.51	749.5	29.91	759.7	63.4	17.4	.....	NW	.....	.....	1	.....	4	.....	.....	0.01	0.3	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	80	26.7	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.82	757.4	29.92	760.0	63.0	17.2	.....	NNW	.....	.....	1	.....	7	.....	.....	.....	.....	Misty.....	H. Todd.
Cardington	.....	.....	29.93	760.2	61.0	16.1	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	60.5	15.8	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	J. Cârmell, Sapper, R. E.
Donaghadee	29.94	760.5	29.98	761.5	59	15.0	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.91	759.7	29.93	760.2	62	16.7	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	29.80	756.9	30.03	762.7	64.2	17.9	.....	NNW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	27.81	706.4	30.10	764.5	67.0	19.4	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	80	26.7	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.96	761.0	64	17.8	.....	SSE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.05	763.3	80.8	27.1	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.69	754.1	29.89	759.2	60.7	15.9	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.88	758.9	29.88	758.9	60	15.6	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29.95	760.7	60.5	15.8	.....	NW	.....	.....	1	.....	9	.....	.....	.....	.....	Cloudy.....	The Staff, for G.B.Airy.
Guernsey	29.77	756.1	29.98	761.5	64	17.8	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	30.03	762.7	30.15	765.8	65	18.3	.....	N	.....	.....	1	2c	.....	.....	.....	0.08	2.0	Fine.....	M. P. Moyle.
Holyhead	29.99	761.7	30.00	762.0	58	14.4	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.75	755.6	30.04	763.0	63.2	17.3	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.93	760.2	29.96	761.0	59.8	15.4	.....	W	11	4.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Leicester, Museum	29.68	753.9	29.92	760.0	63.1	17.3	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	68	31.1	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.81	757.2	29.90	759.4	57	13.9	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.03	762.7	86.5	30.3	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.93	760.2	67.8	19.9	.....	NW	.....	.....	4	.....	7k	.....	N	0.070	1.78	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.43	747.5	29.94	760.5	60.8	16.0	.....	WNW	.....	.....	2	.....	6	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761.2	60	15.6	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.92	760.0	29.99	761.7	66.3	19.1	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.93	761.5	30.10	764.5	65	18.3	.....	SSE	.....	.....	3	.....	8	.....	.....	.....	.....	¾clouded....	Wm. Kennedy.
Saint Ann's Head	29.85	758.2	30.01	762.2	58	14.4	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.89	759.2	51.7	10.9	.....	NNW	23	10.3	.....	.....	10	.....	.....	.....	.....	Showery....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.82	757.4	29.88	758.9	93.8	34.3	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	.....	.....	29.94	760.5	66.0	18.9	.....	NW	.....	.....	3	.....	4	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.58	758.9	29.91	759.7	65.7	18.7	73	W	.....	.....	2	.....	2	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.93	760.2	59.8	15.4	.....	WSW	16	7.2	.....	.....	7	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	60.5	15.8	.....	NW	.....	.....	8	.....	5	.....	.....	.....	.....	D. clouds....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.02	762.5	30.03	762.7	66	18.9	.....	NW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	W.Newcombe.
Valencia, Observatory	29.97	761.2	29.99	761.7	64.6	18.1	.....	SSE	19	8.5	.....	.....	10	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.00	762.0	30.04	763.0	59.0	15.0	.....	W	12.3	5.5	.....	2	6	.....	.....	0	0	Cloudy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.91	759.7	56.9	13.8	.....	W	.....	.....	1	.....	10k	.....	.....	0.04	1.0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	30.04	763.0	30.23	767.9	71.0	21.7	73	ESE	16.0	7.2	.....	2	7	SE	E	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.91	759.7	30.00	762.0	49.1	9.5	76	NNE	5	2.2	.....	.....	8	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00'. E. 28° 45'	.....	.....	30.01‡	762.2‡	75	23.9	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Misty.....	Capt.W.J.L. Wharton.
Atmosphere, N. 49° 40' W. 16° 40'	.....	.....	29.83	757.7	65	18.3	.....	SSW	.....	.....	7	.....	10	.....	.....	6	SW	Raining.....	.....
Barque Commewyne, N. 49° 00', W. 30° 00'	.....	.....	29.48‡	748.8‡	61.5	16.4	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	Capt. A. Buchan.
Gordon Castle, N. 41° 45', W. 59° 20'	.....	.....	29.86	758.4	72	22.2	.....	SE	.....	.....	4	.....	8	.....	WSW	3	Confused	Raining	.....
German Brig "W. von Freeden" N. 37° 10', W. 61° 55'	.....	.....	29.95	760.7	81	27.2	.....	WSW	.....	.....	5	.....	4	NW	.....	4	SW	Showery.....	Capt. H. v. Freeden.
Theophane, N. 27° 15', W. 33° 50'	.....	.....	30.26‡	768.6‡	80	26.7	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	68.4	20.2	97	SE	.....	.....	1	8cs	.....	.....	.....	0.1	2.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.0	29.65	753.2	64.0	17.8	65	W	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Faröe	29.70	754.3	29.72	754.8	61.7	16.5	71	W	.....	.....	4	.....	6	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.94	760.4	29.98	761.5	42.8	5.7	99	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Stykkisholm (Iceland)	30.01	762.2	30.05	763.3	55.0	12.8	75	W	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.93	760.2	29.97	761.1	48.7	9.3	74	N	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	29.56	750.9	29.67	753.7	60.3	15.7	75	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.9	30.04	762.9	66.2	19	86	N	.....	.....	1	.....	10	.....	.....	0.35	9.	Raining	Collignon, Director.
Amiens, Normal School	29.84	757.9	29.95	760.6	68.4	20.2	68	NW	.....	.....	2	.....	5	.....	E	0.205	5.2	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.67	753.6	29.92	760.0	62.4	16.9	70	N	.....	.....	5	.....	.....	.....	W	0.079	2.0	.....	Klein, Commandant.
Avignon, Normal School	29.94	760.5	30.02	762.5	86.7	30.4	38	N	.....	.....	1	.....	5	.....	W	0	0	½ covered	Giraud, Director.
Bar-sur-Seine	29.40	746.8	29.95	760.6	64.6	18.1	83	N	.....	.....	2	.....	10	.....	W	0.75	19.	Covered	C. Saillard, Director.
Beauvais, Normal School	29.69	754.2	29.95	760.7	68.5	20.3	55	NW	.....	.....	2	.....	8	.....	NW	0.201	5.10	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.13	739.9	30.00	762.0	66.2	19	75	S	.....	.....	2	.....	10	SW	.....	0.39	10.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.22	742.1	30.15	765.7	67.6	19.8	91	SW	.....	.....	2	.....	10n	SW	SW	.....	.....	Raining	Marlot, Director.
Bourges, Normal School	29.45	748.0	29.98	761.5	67.3	19.6	96	W	.....	.....	1	.....	n	SW	SW	0.244	6.2	.....	M. Gence, Director.
Brest, Naval Observatory	29.72	755.0	29.97	761.2	66.2	19.0	90	SW	.....	.....	1	.....	8	.....	W	0.768	19.50	.....	Ch. de Rermarse, Dir.
Carcassonne, Normal School	29.71	754.6	30.11	764.7	82.9	28.3	45	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.89	759.3	29.97	761.2	66.6	19.2	64	NW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.43	747.6	29.98	761.5	67.3	19.6	88	S	.....	.....	1	.....	10	.....	W	0.36	9.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.05	763.3	67.1	19.5	61	W	.....	.....	1	.....	8	W	W	.....	.....	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.72	729.5	30.03	762.7	78.4	23.0	42	W	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Alluard, Director.
Commercy, Normal School	29.10	739.0	29.94	760.4	67.1	19.5	83	WNW	.....	.....	3	.....	10kn	WNW	WNW	1.201	30.5	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.6	30.10	764.8	82.6	28.1	34	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.34	745.8	30.08	764.0	75.2	24.0	67	NW	.....	.....	1	.....	8kn	.....	N	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.01	759.7	30.12	765.0	66.0	18.9	88	WSW	.....	.....	3	.....	10	.....	.....	0.24	6.	Covered	Mouillot, Director.
Le Mans, Normal School	29.70	754.4	30.00	762.0	69.8	21	76	NW	.....	.....	1	.....	8	.....	WNW	0.67	17.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.5	30.05	763.2	64.9	18.3	94	SW	.....	.....	1	.....	10	SW	SW	0.08	2.	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.1	30.07	763.7	65.5	18.6	90	W	.....	.....	2	.....	.....	.....	W	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.45	748.1	30.05	763.3	73.1	23.4	60	W	.....	.....	1	.....	10	.....	W	0	0	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.74	755.5	30.01	762.2	75.0	23.9	46	W	.....	.....	5	.....	1	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.89	733.7	29.91	759.6	68.7	17.6	88	NW	.....	.....	1	.....	10kn	NW	NW	.....	.....	Covered	Barbier, Director.
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nismes, Normal School	29.92	759.9	29.95	760.8	80.2	26.8	65	SE	.....	.....	2	.....	5	E	SE	0	0	Misty	M. Boissieré, Director.
Paris, Montsouris Obs'y	29.83	757.7	30.02	762.5	90.7	32.6	45	N	.....	.....	1	.....	2	.....	N	0	0	Slightlycl'dy	M. Boyer, Director.
Pic du Midi (Summit) H. P.	.....	.....	29.69	754.1	65.7	18.7	70	WNW	.....	.....	2	.....	10	.....	WNW	0.516	13.1	.....	Marie Davy, Director.
Pic du Midi (Plantade) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Perpignan	22.80	579.2	.....	.....	61.7	16.5	.....	W	.....	.....	2	.....	1	.....	W	0	0	Clear	Gen'l de Nansouty.
Privas, Normal School	29.98	761.6	30.09	764.2	84.2	29.0	34	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Puy de Dome (Summit) Obs	25.28	642.2	.....	.....	52.7	11.5	100	W	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	69.3	20.7	83	W	.....	.....	3	.....	.....	.....	.....	0.063	1.6	Foggy	Alluard, Director.
Ronen, Normal School	29.89	759.2	29.98	761.4	67.3	19.6	64	W	.....	.....	2	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Saint Malo (Port) Obs'y	29.98	761.5	30.01	762.3	64.8	18.2	86	NNW	.....	.....	1	.....	5	.....	W	0.500	12.7	Cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.80	756.9	29.97	761.2	64.9	18.3	76	NNW	.....	.....	1	.....	5	NW	NW	0.445	11.31	Cloudy	Lt. Hercouet, Director.
Tarbes, Normal School	29.10	739.0	30.13	765.2	78.8	26	64	W	.....	.....	1	.....	10	.....	WNW	0.413	10.5	.....	E. Renou, Director.
Toulouse, Observatory	29.49	749.0	30.21	767.4	77.0	25.0	56	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Tours	29.81	757.2	30.01	762.2	69.8	21.0	87	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	M. Julier Mercadier.
Versailles, Observatory	29.49	749.1	29.98	761.6	65.8	18.8	67	NNW	.....	.....	1	.....	10	.....	WNW	0.457	11.6	Rainy	Cousin-Marquet.
Villefranche-sur-Saone, N.S.	29.39	746.5	30.07	763.8	78.8	26	76	SW	.....	.....	1	.....	8	.....	S	0.389	9.87	.....	Dr. A. Berigny, Director
SUB-SERIES.																0	0	Very cloudy	Nicot, Director.
Fort de France, Martinique	29.81	757.2	29.84	757.9	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.68	753.8	29.70	754.4	81.1	27.3	85	SSW	2.2	1.0	.....	.....	9	.....	.....	0.378	9.6	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.93	734.8	29.76	756.0	65.8	18.8	82	W	.....	.....	8	.....	8	W	.....	0.354	9.0	.....	Prof. Dr. Hoh.
Berlin	29.54	750.3	29.71	754.5	64.6	18.1	75	S	.....	.....	1	.....	10	.....	.....	0.029	0.72	Raining.....	Prof. Dr. Arndt.
Breslau	29.24	742.7	29.77	756.1	68.5	20.3	66	S	.....	.....	2	.....	10	.....	.....	0.029	0.72	Raining.....	Royal University Ob's'y.
Carlsruhe	29.43	747.4	29.84	757.9	66.6	19.2	83	SW	.....	.....	2	.....	9	SW	.....	1.252	31.8	.....	Albert Senz.
Cassel	29.23	742.4	29.83	757.7	60.8	16.0	76	NW	.....	.....	2	.....	8	W	.....	0.427	10.86	.....	Dr. H. Möhl.
Crefeld	29.65	753.0	29.81	757.1	68.0	20.0	55	N	.....	.....	3	.....	7k	.....	.....	0.20	5.	.....	Director Lose.
Emden	.....	.....	29.80	756.8	63.3	17.4	74	W	.....	.....	1	.....	10	.....	.....	0.177	4.5	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.47	748.5	29.83	757.6	66.7	19.3	.....	WNW	.....	.....	3	.....	4	.....	.....	0.429	10.9	.....	Physical Society.
Freienwalde on the Oder	29.65	753.1	29.69	754.1	64.6	18.1	79	S	.....	.....	1	.....	10cs	S	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.52	724.5	29.92	759.9	66.2	19.0	82	SW	.....	.....	7	.....	10	WSW	.....	0.413	10.5	Heavy rain..	M. Wilhelm.
Hamburg	29.68	753.9	29.75	755.7	61.5	16.4	66	NW	.....	.....	3	.....	10n	.....	.....	0.008	0.2	Showery.....	Captain F. Hegemann
Kiel	29.70	754.4	29.72	754.8	63.0	17.2	71	W	.....	.....	3	.....	9	.....	.....	0.056	1.42	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.65	753.0	29.72	755.0	64.0	17.8	78	W	.....	.....	3	.....	10	.....	.....	0.024	0.6	.....	Prof. E. Luther.
Köslin	.....	.....	29.67	753.6	61.7	16.5	.....	Calm	.....	.....	0	.....	5	.....	.....	0.154	3.9	.....	H. Müller.
Leipsic Observatory	29.28	743.7	29.69	754.1	61.3	16.3	89	N	.....	.....	1	.....	9	.....	.....	0.079	2.0	Rain & fog..	Prof. Bruhns, Privy Counselor.
Memel	29.68	753.9	29.73	755.1	70.0	21.1	64	SW	.....	.....	1	.....	4ck	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.09	713.5	29.95	760.7	65.9	18.3	74	W	.....	.....	8	.....	9	W	.....	0.130	3.3	.....	Dr. C. Lang.
Neufahrwasser	29.70	754.4	29.72	754.8	61.5	16.4	83	NW	.....	.....	1	.....	10	.....	.....	0.114	2.9	Thunder-storm.	A. Lothes.
Posen	29.41	746.9	29.69	754.0	65.3	18.5	89	SW	.....	.....	1	.....	10	.....	.....	0.466	11.8	.....	Dr. Magener.
Strassburg (in Alsace)	29.37	745.9	29.90	759.4	67.6	19.8	77	W	.....	.....	3	.....	10	W	.....	0.787	20.00	.....	Imp. University Observatory.
Stuttgart	28.90	734.1	25.81	757.1	68.0	20.0	68	W	.....	.....	5	.....	9	W	.....	0.406	10.3	.....	Prof. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.32	719.3	29.78	756.4	63.5	17.5	85	SW	11	5	.....	.....	8ck	.....	W	1.043	26.5	.....	T. Hopfner.
Wustrow	29.70	754.4	29.72	755.0	61.5	16.4	78	WSW	.....	.....	3	.....	10s	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.0ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.89	759.3	97.0	36.0	.....	SW	.....	.....	0.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....																			
.....																			
.....																			

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.46	748.3	29.51	749.5	82.7	28.2	73	SW	12.0	5.4	.....	.....	7	WNW	.....	0.02	0.5	Hail	
Deesa	29.11	739.4	29.58	751.3	81.1	27.3	83	SSW	20.9	9.3	.....	.....	6	E	SSW	0.15	3.8	Drizzling.....	
Bombay	29.70	754.4	29.74	755.4	76.3	24.6	97	W	31.0	13.8	.....	.....	10	.....	W	1.17	29.7	Raining	
Poona	27.90	708.7	29.77	756.2	72.0	22.2	95	WSW	10.0	4.5	.....	.....	9	.....	WSW	0.21	5.3	Drizzling.....	
Lahore	28.72	729.4	29.43	747.5	94.1	34.5	57	NE	4.8	2.2	.....	.....	6	.....	.....	0	0	D. clouds.....	
Belgaum	27.29	693.1	29.86	758.4	68.7	20.4	93	W	21.0	9.4	.....	.....	10	W	W	0.18	4.6	Drizzling	
Roorkee	28.59	726.2	29.46	748.4	87.8	31.0	71	Calm	0.9	0.4	.....	.....	7	.....	.....	0	0	Thunder.....	
Agra	28.85	732.9	29.40	746.8	89.7	32.1	70	SW	.....	.....	.....	.....	2	.....	SW	0	0	.....	
Nagpur	28.60	726.3	29.63	752.6	80.5	26.9	81	Calm	5.0	2.2	.....	.....	9	.....	SE	0	0	Gloomy.....	
Lucknow	29.10	739.0	29.47	748.5	79.3	26.3	95	N	1.5	0.7	.....	.....	10	.....	.....	.....	.....	Raining	
Allahabad	29.22	742.1	29.53	750.0	81.2	27.3	95	NW	2.4	1.1	.....	.....	10	.....	W	0.14	3.6	Overcast.....	
Patna	29.31	744.4	29.49	749.0	84.4	29.1	84	ENE	1.5	0.7	.....	.....	6	ENE	ENE	0.23	5.8	D. clouds.....	
Hazaribagh	27.49	698.2	29.47	748.5	79.8	26.6	82	NNE	6.6	3.0	.....	.....	9	.....	E	1.12	28.4	Thunder-storm..	
Cuttack	29.49	749.1	29.57	751.2	80.2	26.8	84	SW	6.0	2.7	.....	.....	10	.....	.....	1.09	27.7	Raining.....	
Calcutta (Alipore)	29.42	747.3	29.44	747.8	79.6	26.4	93	SSW	7.0	3.1	.....	.....	10	S	SW	.....	.....	Drizzling.....	
Goalpara	29.20	741.7	29.59	751.5	77.8	25.4	95	ENE	3.0	1.3	.....	.....	10	.....	E	0.36	9.1	Drizzling.....	
Chittagong	29.57	751.1	29.66	753.4	81.9	27.7	81	SE	8.8	3.9	.....	.....	10	.....	.....	0	0	Misty.....	
Sibsagar	29.29	744.0	29.63	752.5	82.3	27.9	85	NE	3.0	1.3	.....	.....	10	W	W	1.14	29.0	D. clouds.....	
Jubbulpore	28.23	717.0	29.58	751.4	78.8	26.0	82	NNW	7.2	3.2	.....	.....	10	.....	NW	0	0	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.49	749.0	29.88	758.9	81.0	27.2	49	SW	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.38	746.3	29.87	758.8	81.5	27.5	49	NW	.....	.....	2	.....	9	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.76	755.9	29.87	758.6	82.8	28.2	46	S	2.5	1.1	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.3	29.89	759.3	79.2	26.2	71	SE	3.8	1.7	.....	.....	8	W	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.76	755.8	29.94	760.5	75.9	24.4	68	SE	15.0	6.7	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.02	711.7	29.84	758.0	80.4	26.9	53	ENE	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.81	757.2	29.86	758.4	81.7	27.6	53	NE	13.7	6.1	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.70	754.3	29.94	760.5	83.1	28.4	44	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.89	759.2	29.97	761.3	81.0	27.2	56	S	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.81	757.1	29.98	761.4	84.0	28.9	53	S	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.7	29.92	759.9	80.8	32.1	38	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.13	739.8	29.97	761.1	92.5	33.6	57	NW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.85	758.1	30.03	762.8	88.3	31.3	27	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.77	756.2	30.02	762.4	80.8	27.1	72	NNE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.81	757.1	29.88	758.9	89.4	31.9	55	WSW	7.4	3.3	.....	.....	0?	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.9	30.04	763.0	80.6	27.0	74	WNW	6.3	2.8	.....	.....	5	W	.....	0	0	.....	Prof. T. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.69	754.1	29.71	754.6	76.3	24.6	90	WSW	2.8	1.2	.....	.....	2ck	.....	.....	0.898	22.81	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.54	750.3	29.74	755.4	77.7	25.4	91	W	0.6	0.3	.....	.....	4s	.....	.....	0.030	0.76	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.54	750.3	29.61	752.1	73.2	22.9	96	NNW	4.2	1.9	.....	.....	10ks;s	.....	.....	0.200	5.08	Cloudy	The Staff.
Wakayama	29.60	751.8	29.65	753.1	77.9	25.5	80	NNE	4.2	1.9	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.09	637.2	30.08	764.0	69.9	15.5	77	SW	.....	.....	3	.....	10	.....	E	1.38	35.0	Raining	Prof. L. Perez.
Leon	24.45	621.1	30.09	764.3	63.0	17.2	90	S	.....	.....	1	.....	10n	.....	NW	1.06	26.8	Raining	Prof. M. Leal.
Mexico, Central Obs'y	28.10	686.8	30.08	764.1	56.8	13.5	93	NW	1.1	0.5	.....	10n	Fog	.....	.....	0.39	10.1	Light rain	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	63.8	17.4	87	NE	.....	.....	1	.....	10n	.....	S	0.03	0.7	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.96	761.0	29.67	761.3	77.9	25.5	87	SW	.....	.....	1	7	0	E	.....	Inap.	Inap.	Cloudy	Prof. M. M. Châsaro.
San Luis Potosi	24.22	615.1	30.13	765.3	62.1	16.7	34	E	.....	.....	1	.....	10	.....	SE	0.05	1.3	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.67	573.2	30.11	764.7	58.6	14.8	92	Calm	.....	.....	0	5ck	4k	.....	.....	0.75	19.0	Very cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.46	596.0	30.18	766.6	58.1	14.5	81	NE	0.4	0.2	.....	.....	6ck	.....	SE	0.004	0.1	½ clouded	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.73	755.1	30.03	762.4	73.9	23.3	91	SW	.....	.....	4	.....	10n	.....	SW	0.26	6.5	Rainy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,498 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.6	29.91	759.6	61.2	16.2	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.315	8.0	.....	
Groningen	29.78	755.1	29.78	756.5	61.9	16.6	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	29.80	757.0	29.80	757.0	60.1	15.6	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.106	2.7	.....	
Hellevoetsluis	29.85	758.2	29.85	758.2	61.0	16.1	73	WNW	.....	.....	3	.....	.....	.....	.....	1.228	31.2	.....	
Utrecht	29.80	756.9	29.85	758.1	64.2	17.9	77	W	.....	.....	4	.....	8	.....	.....	0.933	23.7	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.54	750.4	29.60	751.8	59.7	15.4	75	W	6.0	2.7	.....	.....	6	.....	.....	0	0	.....	
Brönö	29.63	752.7	29.67	753.7	71.6	22.0	43	S	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.37	745.9	29.51	749.5	63.0	17.2	78	NW	2	1	.....	.....	10	.....	.....	0.461	11.7	.....	
Tromsö	29.69	754.1	29.73	755.2	59.7	15.4	72	NE	9	4	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.98	761.4	30.16	766.1	76.6	24.8	85	SW	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.10	739.1	30.06	763.5	68.9	31.6	24	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.06	763.5	30.15	765.7	73.2	22.9	67	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.80	756.8	30.14	765.6	78.1	25.6	49	NNE	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.16	766.1	30.25	768.3	76.3	24.6	76	SW	13.7	6.1	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9.	Sea or swell. Direction from—			
Bartholomew Dias					A. G. da Silva Costa, Com'd't.
D. Fernando					A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.					J.C. M. Cabrate, 1st Lt
Mindello					J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	1	WNW	D. clouds		H. de C. C. e Athayde.
Rio Duro					J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	2	ENE	D. clouds		A. A. A. Loureiro.
Sá da Bandeira					F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, N. 6° 14′, W. 13° 40′	2	SSW	D. clouds		H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	2	SW	Blue sky		J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.37	745.9	29.78	756.3	70.7	21.5	66	SW	9	4	.....	.....	9ck;	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.40	746.8	29.81	757.1	67.8	19.9	56	SSW	11	5	.....	.....	6	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.53	750.0	29.76	755.9	67.8	19.9	58	SW	7	3	.....	.....	10k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.76	755.8	29.78	756.2	66.9	19.4	64	SSE	11	5	.....	.....	8kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.27	743.4	29.87	758.8	71.4	21.9	49	NW	4	2	.....	.....	7k;cks;	ckn].	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.91	759.8	29.98	761.6	76.1	24.5	59	NNW	4	2	.....	.....	5cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	29.98	761.4	30.00	761.9	76.8	24.9	81	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.30	744.1	29.82	757.5	70.0	21.1	67	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.67	753.5	29.86	758.5	77.5	25.3	48	NNW	9	4	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.96	761.0	29.98	761.5	68.9	20.5	63	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.58	725.9	29.91	759.8	87.3	30.7	33	S	4	2	.....	.....	2n	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.03	762.7	29.95	760.6	82.6	28.1	40	WNW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.49	749.0	29.94	760.4	78.8	26.0	33	N	0	0	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.65	753.2	29.91	759.6	76.1	24.5	46	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.80	731.5	29.72	755.0	68.0	20.0	58	N	7	3	.....	.....	3ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.46	748.3	29.69	754.0	79.0	26.1	46	WNW	2	1	.....	.....	3k	.....	.....	.....	.....	.....	
Tashkend	28.31	719.2	29.79	756.7	82.4	28	57	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.03	737.3	29.50	749.4	70.5	21.4	71	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.45	748.1	29.73	755.1	63.9	17.7	74	NNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	
Peking (China)	29.50	749.3	29.64	752 9	74.1	23.4	91	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observat ory
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.72	755.0	29.82	757.5	65.8	18.8	96	SE	13	6	.....	.....	8s	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.3	30.08	763.9	83.1	28.4	56	S	5.7	2.56	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.13	765.3	30.19	766.7	83.7	28.7	50	W	2.5	1.14	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.24	692.0	.....	.....	81.3	27.4	38	NE	5.9	2.63	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Observatory	27.90	708.6	29.95	760.7	99.1	37.3	21	SW	4.5	2.00	.....	0	1	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.94	760.5	30.08	764.1	90.0	32.2	55	NE	3.8	1.69	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.6	30.10	764.4	80.6	27.0	56	NE	8.7	3.9	.....	0	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.6	30.01	762.3	81.3	27.4	80	Calm	0	0	.....	1c;cs	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.5	29.85	758.2	85.9	29.9	83	WSW	0	0	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	763.0	30.13	765.4	80.4	26.9	74	WNW	7.7	3.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762.1	82.4	28.0	78	SE	0	0	.....	6cks	5k	SE	SE	0.167	4.25	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.87	758.7	29.91	759.7	71.1	21.7	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.73	755.2	29.78	756.5	62.2	16.8	92	E	.....	.....	4	.....	10	.....	.....	0.138	3.5	.....	
Hernosand	29.60	751.8	29.65	753.1	62.6	17.0	90	ENE	.....	.....	4	.....	10	.....	.....	0.016	0.4	.....	
Stockholm	29.24	742.6	29.41	747.1	67.1	19.5	79	WSW	.....	.....	2	.....	9	.....	.....	0.079	2.0	.....	
Wisby	29.53	750.1	29.59	751.6	61.2	16.2	85	WSW	.....	.....	6	.....	10	.....	.....	0.862	21.9	.....	
Sub-Series.																			
Upsala	29.31	744.4	29.39	746.6	62.6	17.0	93	E	8.5	3.8	.....	.....	8	.....	ESE	0.343	8.70	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.66	728.0	30.05	763.3	68.7	20.4	68	SSW	.....	.....	5	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.37	720.7	29.98	761.4	64.4	18.0	82	W	.....	.....	6	.....	10	.....	.....	0.472	12.0	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.2 mm.; Thermometer, —1.8 Cent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.99	761.7	84.7	29.3	48	N	10	4.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.8	86.2	30.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.66	753.4	29.78	756.3	90.3	32.4	55	WSW	.....	.....	2	.....	5k	.....	W	0	0	D. clouds....	Prof. C.V.A.Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.62	767.4	29.88	758.9	60	15.6	90	E	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.86	758.4	29.90	759.4	60	15.6	87	E	9	4.0	.....	.....	10n	.....	SE	0	0	Threatening	H. J. Cundall, C. E
Cornwall, Ontario	29.72	754.9	29.92	760.0	54.3	12.4	75	W	.....	.....	3	.....	9s	.....	.....	0.487	12.37	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.70	754.4	29.86	758.4	54	12.2	100	E	.....	.....	4	.....	10ks	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	61	16.1	83	S	18	8.0	.....	5k	5ks	SW	SW	0.17	4.3	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.87	758.7	64.8	17.9	79	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. Harrison.
*Fort Garry, Manitoba	29.23	742.4	30.04	763.0	54	12.2	87	SW	7	3.1	.....	Haze	Haze	.....	.....	0	0	Hazy.	James Stewart.
Granton, Ontario	28.97	735.8	30.07	763.8	53	11.7	93	W	.....	.....	2	.....	10n	.....	.....	0	0	Threatening	James Grant.
*Halifax, N. S	29.73	755.1	29.86	758.4	60	15.6	89	SE	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.72	754.9	30.08	764.0	54.6	12.6	84	NW	.....	.....	1	10ck	0	NW	.....	0	0	Cloudy.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.64	752.8	29.97	761.2	57	13.9	70	NW	6	3.6	.....	0	0	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	29.94	760.5	29.98	761.5	61.0	16.1	91	SE	12	5.4	.....	.....	10n	.....	.....	0	0	Overcast.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.69	754.1	29.88	758.9	55	12.8	79	W	10	4.5	.....	0	2ks	.....	W	0.24	6.1	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.34	745.2	30.02	762.5	56	13.3	69	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.02	762.5	56.7	13.7	69	NW	.....	.....	4	0	3ks	.....	.....	0	0	Fair.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.36	745.7	30.04	763.0	56	13.3	87	N	7	3.1	.....	8k	0	W	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	29.86	758.4	29.91	759.7	62.5	16.9	.....	SW	16	6.7	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.03	762.7	54	12.2	87	NW	4	1.8	.....	5ck	0	NW	.....	0	0	Fair.....	M. Payne.
*Quebec, Quebec	29.49	749.0	29.80	756.9	57	13.9	87	NW	.....	.....	1	0	2s	.....	NW	0.51	13.0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.51	749.5	29.96	761.0	52	11.1	86	NW	8	3.6	.....	.....	8s	.....	NW	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	29.78	756.4	29.83	757.7	58	14.4	86	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.69	754.1	29.85	758.2	61	16.1	82	E	5	2.2	.....	0	10ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.34	745.2	30.04	763.0	58	14.4	64	N	5	2.2	.....	2k	0	.....	.....	0	0	Clear.....	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M.A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	29.95	760.7	29.99	761.7	61	16.1	79	E	11	4.9	.....	.....	10ks	.....	SE	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.68	753.9	30.06	763.5	56	13.3	75	NW	6	2.7	.....	.....	10ks	.....	NW	0	0	Cloudy.....	Prof. John E. Oram.
Woodstock, Ontario	29.82	757.4	29.84	757.9	60.5	15.8	85	E	6	2.7	.....	.....	10k	.....	.....	0	0	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.12	765.0	53.0	11.7	93	NE	.....	.....	.....	10	10	.....	.....	0.08	2.0	Overcast..	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.96	761.0	57	13.9	69	NW	3	1.3		8cs	0	SW		0	0	Fair	
Alpena, Michigan	29.44	747.8	30.09	764.3	51	10.6	79	W	13	5.8			8s		W	0	0	Cloudy	
Atcha, Aleutian Is., Alaska					47	8.3	92	W	11	4.9		0	2s		NW	0	0	Fair	
Atlanta, Georgia	28.79	731.3	29.89	759.2	67	19.4	84	NW	10	4.5		5k	5s	NW	NW	0.43	10.9	Cloudy	
Atlantic City, New Jersey	29.92	760.0	29.94	760.5	64	17.8	63	N	13	5.8			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.70	754.4	29.89	759.2	77	25.0	82	SW	4	1.8			10s		NW	0.72	18.3	Cloudy	
Baltimore, Maryland	29.96	761.0	30.01	762.2	66	18.9	54	N	6	2.7			10s		W	0	0	Cloudy	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	64	17.8	63	N	20	8.9			10s		W	0	0	Cloudy	
Bismarck, Dakota	28.32	719.3	30.18	766.6	57	13.9	81	SE	4	1.8		0	0			0	0	Clear	
Boerne, Texas	28.58	725.9	29.85	758.2	72	22.2	85	NE	3	1.3		5k	5ks	Calm	SW	0	0	Cloudy	
Boise City, Idaho	27.16	689.8	30.12	765.0	67	19.4	42	SE	5	2.2		0	Sm'e		Calm	0	0	Dense smoke	
Boston, Massachusetts	29.73	755 1	29.88	758.9	62	16.7	77	W	7	3.1			10s		W	0.07	1.8	Cloudy	
Brackettville, Texas	28.56	733.0	29.86	758.4	68	20.0	95	W	8	3.6			10n		N	0.72	18.3	Light rain	
Breckenridge, Minnesota	29.12	739.6	30.13	765.3	48	8.9	85	S	2	0.9		2k	0	Calm		0	0	Fair	
Brownsville, Texas	29.88	758.9	29.92	760.0	84	28.9	79	SE	4	1.8		8k	0	SE		0	0	Fair	
Buffalo, New York	29.34	745.2	30.03	762.7	55	12.8	81	SW	6	2.7		5k	2s	NW	NW	0	0	Fair	
Burkes, Arizona					81	27.2	55	S			1	0	0			Inap.	Inap.	Clear	
Burlington, Vermont	29.63	752.6	29.91	759.7	59	15.0	59	N	5	2.2		2c	2ks	W	NW	0.38	9.7	Fair	
Cairo, Illinois	29.81	757.2	30.19	766.8	66	18.9	69	N	6	2.7		0	0			0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	61	16.1	66	E	10	4.5		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.83	757.7	29.84	757.9	79	26.1	82	W	2	0.9		10cs	0	W		0.34	8.6	Cloudy	
Cape Henry, Virginia	29.85	758.2	29.87	758.7	70	21.1	95	NE	17	7.6			10n		NE	1.80	45.7	Light rain	
Cape Lookout, N. Carolina	29.82	757.4	29.84	757.9	78	25.6	91	NW	9	4.0		2k	0	W		1.68	42.7	Fair	
Cape May, New Jersey	29.90	759.2	29.93	760.2	64	17.8	67	N	15	6.7			10ks		E	0	0	Cloudy	
Castroville, Texas	29.23	742.4	29.90	759.4	81	27.2	74	SE	6	2.7			10s		S	0	0	Cloudy	
Charleston, South Carolina	29.81	757.2	29 86	758.4	79	26.1	78	SW	6	2.7		0	8s		W	0.05	1.3	Cloudy	
Charlotte, North Carolina	29.06	738.1	29.84	757.9	67	19.4	95	NE	11	4.9			10n		NE	1.30	33.0	Light rain	
Chattanooga, Tennessee	29.22	742.2	30.00	762.0	67	19.4	69	NW	6	2.7		5ck	Haze	N	Calm	0.14	3.6	Fair	
Cheyenne, Wyoming	24.33	618.0	30.27	768.8	50	10.0	97	NW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.46	748.3	30.13	765.3	63	17.2	57	SE	4	1.8			10s		SE	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.47	748.5	30.12	765.0	59	15.0	59	N	6	2.7		0	0			0	0	Clear	
Cleveland, Ohio	29.35	745.5	30.06	763.5	60	15.6	65	S	2	0.9			10ks		W	0	0	Cloudy	
Coleman City, Texas	28.32	719.3	29.97	761.2	60	15.6	100	N	12	5.4			10n		Calm	1.64	41.7	Light rain	
Columbus, Ohio	29.24	742.7	30.06	763.5	59	15.0	70	NW	7	3.1		0	Haze		Calm	0	0	Clear	
Concho, Texas	28.24	717.3	29.91	759.7	59	15.0	100	NE	5	2.2			10n		Calm	1.74	44.2	Raining	
Corsicana, Texas	29.58	751.3	30.01	763.0	72	22.2	85	NE	8	3.6			10ks		Calm	0	0	Threatening	
Davenport, Iowa	29.54	750.3	30.18	766.6	57	13.9	81	NW	1	0.4		0	Sm'e		Calm	0	0	Clear	
Deadwood, Dakota	25.62	650.7			52	11.1	79	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.00	711.2	30.16	766.1	63	17.2	89	N	4	1.8			10c		NE	0.30	7.6	Cloudy	
Denison, Texas	29.34	745.2	30.13	765.3	62	16.7	94	N	6	2.7			10s		N	2.23	56.6	Cloudy	
Denver, Colorado	25.08	637.0	30.30	769.6	54	12.2	74	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.32	744.7	30.21	767.3	54	12.2	80	Calm	0	0		0	Haze		Calm	0	0	Clear	
Detroit, Michigan	29.42	747.3	30.09	764.3	54	12.2	74	NW	4	1.8		2ck	Haze	NW	Calm	0	0	Clear	
Dodge City, Kansas	27.68	603.1	29.95	760.7	60	15.6	88	S	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa	29.48	748.8	30.18	766.6	58	14.4	76	Calm	0	0		5k	0	NW		0	0	Fair	
Duluth, Minnesota	29.46	748.3	30.13	765.3	57	13.9	75	Calm	0	0		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.22	742.2	29.93	760.2	71	21.7	95	N	12	5.4			10n		Calm	0.05	1.3	Light rain	
Eastport, Maine	29.78	756.4	29.85	758.2	56	13.3	87	E	4	1.8			10s		Calm	0	0	Cloudy	
Edinburg, Texas					80	26.7	96	S			1	5ks	5s	S	S	0	0	Fair	
El Paso, Texas	26.41	670.8			63	17.2	67	NE	8	3.6		0	5s		NE	0	0	Fair	
Erie, Pennsylvania	29.33	745.0	30.03	762.7	60	15.6	60	NW	8	3.6		2k	5ks	NW	NW	0	0	Cloudy	
Escanaba, Michigan	29.48	748.8	30.12	765.0	56	13.3	63	NW	2	0.9		0	0			0	0	Clear	
Florence, Arizona	26.50	723.9	30.10	764.5	75	23.9	60	W	6	2.7		0	0			0.94	23.9	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.08	713.2	29.90	759.4	55	12.8	73	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.34	643.6	30.30	769.6	53	11.7	100	N	10	4.5			10n		Calm	0.41	10.2	Light rain	
Fort Gibson, Indian Ter	29.53	750.0	30.16	766.1	67	19.4	79	Calm	0	0		0	0			1.70	43.2	Clear	
Fort Grant, Arizona	25.31	642.9	30.11	764.8	71	21.7	62	NE	4	1.8		0	2ks		Calm	0.45	11.4	Clear	
Fort Griffin, Texas	28.89	633.8	30.14	765.5	63	17.2	89	NE	6	2.7			10s		Calm	0.69	17.5	Cloudy	
Fort Keogh, Montana	27.55	699.8			60	15.6	70	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.87	707.9	29.78	756.4	64	17.8	94	N	7	3.1			10n		Calm	3.42	86.9	Heavy rain.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.97	735.1	30.08	764.0	60	15.6	88	N	10	4.5		0	0			0.13	3.3	Clear	
Fort Stevenson, Dakota	28.27	718.0			56	13.3	80	Calm	0	0		0	0			0	0	Clear	
Fort Verde, Arizona					67	19.4	74	SW			1	0	0			Inap.	Inap.	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.31	719.1	29.82	757.4	74	23.3	81	N	4	1.8			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.98	761.5	30.02	762.5	83	28.3	75	S	2	0.9		1cs	1ks	N	S	Inap.	Inap.	Fair	
Graham, Texas	29.07	738.4	30.12	765.0	62	16.7	94	NE	6	2.7		5cs	8s	N	SE	0.35	8.9	Threatening	
Grand Haven, Michigan	29.49	749.0	30.13	765.3	60	15.6	65	Calm	0	0		0	2s		Calm	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	29.20	741.7	30.16	766.1	61	16.1	88	NE	12	5.4		0	8s		NW	4.41	112.0	Cloudy	
Indianapolis, Indiana	29.35	745.5	30.12	765.0	57	13.9	75	Calm	0	0		5k	0	NW		0	0	Fair	
Indianola, Texas	29.98	761.5	30.01	762.2	82	27.8	83	S	2	0.9		1c	1ks	Calm	S	0	0	Clear	
Jacksboro, Texas	28.91	734.3	30.02	762.5	62	16.7	94	N	8	3.6			10s		N	1.60	40.6	Cloudy	
Jacksonville, Florida	29.93	760.2	29.95	760.7	80	26.7	74	SW	6	2.7			10s			0.04	1.0	Cloudy	
Keokuk, Iowa	29.53	750.0	30.14	765.5	61	16.1	71	N	3	1.3		0	0			0	0	Clear	
Key West, Florida	29.99	761.7	30.03	762.7	84	28.9	75	SE	6	2.7		0	0			0.07	1.8	Clear	
Kittyhawk, North Carolina	29.79	756.7	29.81	757.2	74	23.3	90	NE	16	7.2		2ck	5s	SW	NE	1.14	29.0	Fair	
Knoxville, Tennessee	29.03	737.3	30.00	762.0	66	18.3	73	N	12	5.4		8ck	Haze	SW	Calm	0.21	5.3	Cloudy	
La Crosse, Wisconsin	29.42	747.3	30.15	765.8	57	13.9	81	SW	2	0.9			Fog		Calm	0	0	Foggy	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	58	14.4	88	Calm	0	0		2c	0	W		0.04	1.0	Clear	
Laredo, Texas	29.51	749.5	29.83	757.7	84	28.9	47	E	4	1.8			10s		E	0	0	Cloudy	
Leavenworth, Kansas	29.38	746.2	30.22	767.6	59	15.0	76	Calm	0	0			Fog			0	0	Dense fog	
Little Rock, Arkansas	29.80	756.9	30.16	766.1	65	18.3	94	NW	4	1.8			10s		NW	1.04	26.4	Cloudy	
Los Angeles, California	29.64	752.8	29.98	761.5	61.0	16.1	82	Calm	0	0		0	0			0	0	Clear	
Louisville, Kentucky	29.56	750.8	30.11	764.8	59	15.0	70	W	7	3.1		1cs	Sm'e	Calm	Calm	0	0	Clear	
Lynchburg, Virginia	29.31	744.5	29.97	761.2	66	18.9	69	NE	1	0.4			10s		NW	0.09	2.3	Cloudy	
Madison, Wisconsin	29.16	740.7	30.13	765.3	58	14.4	64	W	4	1.8		1cs	0	NW		0	0	Clear	
Marquette, Michigan	29.39	746.5	30.08	764.0	57	13.9	69	NW	11	4.9		0	0			0	0	Clear	
Mason, Texas	28.45	722.6	30.18	766.6	66	18.9	95	N	8	3.6			10s		N	0.02	0.5	Threatening	
Memphis, Tennessee	29.80	756.9	30.14	765.5	65	18.3	83	N	6	2.7		0	10ks		NW	0.05	1.3	Cloudy	
Milwaukee, Wisconsin	29.42	747.3	30.14	765.5	57	13.9	75	NW	5	2.2		0	0			0	0	Clear	
Mobile, Alabama	29.99	761.7	30.03	762.7	76	24.4	86	N	9	4.0		5cs	5s	W	N	0.47	11.9	Cloudy	
Montgomery, Alabama	29.78	756.4	30.01	762.2	74	23.3	85	NW	6	2.7		2cs	0	NW		0.42	10.7	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.06	738.1	30.02	762.5	67	19.4	64	Calm	0	0	.....	1k	0	SW	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.73	602.7	30.09	764.3	35	1.7	100	NW	12	5.4	.....	.....	Fog	.....	NW	0.32	8.1	Foggy.....	
Nashville, Tennessee.....	29.57	751.1	30.09	764.3	64	17.8	68	N	7	3.1	.....	5c	0	NW	.....	0	0	Fair	
New Haven, Connecticut....	29.80	756.9	29.92	760.0	60	15.6	65	NW	8	3.6	.....	5ck	5s	Calm	Calm	0.06	1.5	Cloudy.....	
New London, Connecticut...	29.86	758.4	29.91	759.7	61	16.1	63	NW	5	2.2	.....	.....	9s	.....	NW	0.68	17.3	Cloudy	
New Orleans, Louisiana.....	29.96	761.0	30.02	762.5	81	27.2	87	SW	4	1.8	.....	5c	1s	Calm	Calm	0.32	8.1	Fair.....	
Newport, Rhode Island.....	29.83	757.7	29.88	758.9	63	17.2	83	NW	6	2.7	.....	.....	10s	.....	Calm	0.58	14.7	Cloudy	
New York, New York.....	29.70	756.7	29.96	761.0	63	17.2	61	NW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Norfolk, Virginia.....	29.83	757.7	29.89	759.2	70	21.1	95	NE	9	4.0	.....	.....	10n	.....	NE	2.11	53.6	Heavy rain.	
North Platte, Nebraska	27.31	693.7	29.86	758.4	57	13.9	91	SW	5	2.2	.....	5cs	Haze	Calm	Calm	0	0	Fair.....	
Olympia, Washington Ter..	30.00	762.0	30.04	763.0	48.0	8.9	93	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Omaha, Nebraska.....	29.08	738.6	30.17	766.3	59	15.0	82	Calm	0	0	.....	Haze	2s	Calm	Calm	0	0	Clear	
Oswego, New York.....	29.68	753.9	29.99	761.7	59	15.0	65	N	6	2.7	.....	5k	0	NW	.....	0	0	Fair.....	
Pembina, Dakota.....	29.10	741.4	30.01	762.2	49	9.4	93	S	3	1.3	.....	0	Haze	.....	.....	0	0	Dense haze.	
Philadelphia, Pa.....	29.92	760.0	29.97	761.2	64	17.8	63	N	10	4.5	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Phœnix, Arizona.....	28.83	732.3	30.56	776.2	75	23.9	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	18.11	460 0	30.32	770.1	29	— 1.7	34	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas.....	29.40	746.7	30.28	767.8	65	18.3	73	N	6	2.7	.....	.....	10n	.....	N	0.08	2.0	Heavy rain.	
Ploche, Nevada.....	.....	.....	.....	.....	62	16.7	22	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.24	742.7	30.04	763.0	55	12.8	81	NW	4	1.8	.....	2k	Fog	NW	Calm	0	0	Fair	
Port Huron, Michigan.....	29.41	747.0	30.06	763.5	54	12.2	61	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine.....	29.82	757.4	29.86	758.4	63	17.2	83	E	3	1.3	.....	8k	0	Calm	.....	0	0	Cloudy.....	
Portland, Oregon.....	29.96	761.0	30.04	763.0	57.5	14.2	100	Calm	0	0	.....	.....	Fog	.....	S	0	0	Foggy	
Prescott, Arizona.....	24.92	633.0	30.28	769.1	59	15.0	82	W	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear	
Punta Rassa, Florida.....	30.00	762.0	30.02	762.5	82	27.8	79	SE	4	1.8	.....	2cs	5ks	W	SE	0.07	1.8	Fair	
Red Bluff, California.....	29.54	750.3	29.88	758.9	80	26.7	37	S	2	0.9	.....	1c	Haze	S	Calm	0	0	Clear.....	
Rio Grande City, Texas.....	29.77	756.1	29.98	761.5	81	27.2	83	SE	4	1.8	.....	.....	10s	.....	SE	0.06	1.5	Cloudy.....	
Rochester, New York.	29.40	746.7	30.00	762.0	58	14.4	68	NW	14	6.3	.....	9k	0	W	.....	0	0	Cloudy	
Roseburg, Oregon.....	29.48	748.8	30.05	763.3	56	13.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.81	757.2	29.89	759.2	66	18.9	54	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.02	752.3	30.19	766.8	61	16.1	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
St. Marks, Florida.....	29.98	761.5	30.00	762.0	75	23.9	90	NW	6	2.7	.....	0	9s	.....	Calm	0.13	3.3	Cloudy.....	
St. Paul, Minnesota.....	29.30	744.2	30.12	765.0	58	14.4	81	SW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear.....	
Salt Lake City, Utah.....	25.77	654.6	30.10	764.5	74	23.3	18	NE	5	2.2	.....	1k	0	Calm	.....	0	0	Clear.....	
San Antonio, Texas.....	29.32	744.7	29.88	758.9	82	27.8	71	NE	2	0.9	.....	5ck	9	Calm	.....	0	0	Fair	
San Diego, California.....	29.90	759.4	29.97	761.2	67	19.4	89	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio.....	29.42	747.3	30.08	764.0	62	16.7	66	N	7	3.1	.....	0	1ks	.....	N	0	0	Clear	
Sandy Hook, New Jersey....	29.91	759.7	29.94	760.5	63	17.2	62	NW	18	8.0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
San Francisco, California..	29.92	760.0	29.99	761.7	52	11.1	93	SW	10	4.5	.....	.....	Fog	.....	SW	0	0	Foggy	
Santa Fé, New Mexico.....	23.67	598.7	30.11	764.6	49	9.4	71	N	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Savannah, Georgia.....	29.82	757.4	29.90	759.4	79	26.1	78	SW	5	2.2	.....	.....	10s	.....	SW	0.33	8.4	Cloudy.....	
Shreveport, Louisiana.....	29.86	758.2	30.06	763.5	69	20.6	85	NE	7	3.1	.....	.....	10s	.....	NE	Inap	Inap.	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.84	757.9	29.88	758.9	78	25.6	91	W	6	2.7	.....	0	8s	.....	SW	0	0	Cloudy.....	
Socorro, New Mexico.....	25.66	651.8	29.72	754.9	60	15.6	71	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.....	
Springfield, Ill.....	29.63	750.0	30.19	766.8	61	16.1	66	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	61	16.1	66	NW	2	0.9	.....	0	8ks	.....	SW	0.05	1.3	Cloudy.....	
Stockton, Texas.....	27.25	692.1	30.25	768.3	54	12.2	15	NE	28	12.5	.....	.....	Haze	.....	E	0.24	6.1	Hazy	
Thatcher's Island, Mass.....	29.86	758.4	29.92	760.0	63	17.2	94	N	5	2.2	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy.....	
Toledo, Ohio, ...	29.41	747.0	30.09	764.3	55	12.8	62	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Tucson, Arizona.....	27.59	700.8	30.14	765.5	76	24.4	72	SE	4	1.8	.....	0	0	.....	.....	0.50	12.7	Clear.	
Umatilla, Oregon.....	29.58	751.3	30.05	763.3	72.0	22.2	58	SE	4	1.8	.....	0	8ks	.....	W	0	0	Fair.	
Uvalde, Texas.....	29.96	738.1	29.84	757.9	79	26.1	82	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi.....	29.82	757.4	30.07	763.8	72	22.2	80	NE	1	0.4	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Virginia City, Montana.....	24.49	622.0	29.97	761.2	60	15.6	24	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.62	749.8	29.88	758.9	66	18.9	54	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.....	29.88	758.9	29.99	761.7	64	17.8	63	N	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina.....	29.78	756.4	29.86	758.4	74	23.3	86	Calm	0	0	.....	.....	10s	.....	NW	0.35	8.9	Cloudy.....	
Winnemucca, Nevada.....	25.72	653.3	30.08	764.0	54	12.2	26	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.83	757.7	29.87	758.7	62	16.7	83	NW	10	4.5	.....	.....	10ks	.....	NE	0.87	21.8	Cloudy.....	
Yankton, Dakota.....	28.91	734.3	30.18	766.6	63	17.2	62	SW	6	2.7	.....	5k	Haze	SW	Calm	0	0	Fair	
Yuma, Arizona.....	29.80	756.9	29.96	761.0	79	26.1	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	29.96	761.0	30.01	762.2	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	J. B. Gordon.
Kingston, Jamaica, W. I....	30.18	766.6	30.19	766.8	81	27.2	84	Calm	0	0	.....	8ck	2ks	Calm	.....	0	0	Hazy.....	Chas. Hasselbring.
Medellin, Colombia, S. A..*.	25.27	641.8	.....	.....	67.0	19.4	78	Calm	.....	.....	0	3c	1ks	.....	.....	0.17	4.3	.....	James Gall.
Navassa, W. I.....	29.90	759.4	29.98	761.5	85	29.4	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.03	762.7	30.04	763.0	82	27.8	79	E	.....	.....	2	4ck	4k	E	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Hering.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	29.63	752.6	29.64	752.8	82	27.8	79	SE	4	1.8	.....	4c	8ks	E	.....	0.33	8.4	.....	G. O. Gellich.
.....	29.88	758.9	29.93	760.2	41.0	5.0	96	S	10	4.5	.....	0	4s	.....	S	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.98 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	83	28.3	87	NW	5	2.2	.....	.....	2	.....	NW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.61‡	752.1‡	.....	.....	73	22.8	90	N	.....	.....	1	.....	10n	.....	NE	0.21	5.3	.....	.....	Light rain	
Adams, Mare I'd., Navy Yard, Cal.	29.96‡	761.0‡	.....	.....	58	14.4	94	SSW	.....	.....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy	
Alliance, Stockholm, Sweden	29.53‡	750.0‡	.....	.....	65	18.3	84	WNW	.....	.....	2	.....	5	.....	WNW	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.58‡	751.3‡	.....	.....	74	23.3	90	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Smooth	.....	Rainy	
Colorado, New York, N. Y.	29.93‡	760.2‡	.....	.....	63	17.2	67	NW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Misty	
Constellation, Newport, R. I.	29.88‡	758.9‡	.....	.....	62	16.7	74	NNW	.....	.....	3	.....	10	.....	Calm	Heavy	Heavy	.....	.....	Overcast	
Constitution, Navy Yard, Brooklyn, N.Y.	29.97‡	761.2‡	.....	.....	62	16.7	77	NNW	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Overcast	
Enterprise, N. 55° 27′, E. 10° 55′	29.70‡	754.4‡	.....	.....	61	16.1	77	NW	.....	.....	2	.....	6	.....	NNW	.....	.....	Smooth	.....	Cloudy	
Essex, S. 26° 55′, W. 44° 22′	29.79‡	756.7‡	.....	.....	56	13.3	94	W	.....	.....	8	.....	10	.....	W	.....	.....	Heavy	WSW	Stormy	
Franklin, Norfolk, Va.	29.89‡	759.2‡	.....	.....	72	22.2	90	SE	8.4	3.8	.....	.....	10	.....	.....	2.9	74.	.....	.....	Rainy	
Hartford Rio de Janeiro, Brazil	30.08‡	764.0‡	.....	.....	59	15.0	94	SW	4	1.8	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.96‡	761.0‡	.....	.....	61	16.1	88	SW	3.6	1.6	.....	.....	6	.....	SW	0	0	.....	.....	Cloudy	
Kearsarge, Shediac, New Brunswick.	29.86‡	758.4‡	.....	.....	62	16.7	83	SSE	.....	.....	2	.....	10	.....	SSE	.....	.....	.....	.....	Hazy	
Michigan, Chicago, Ill.	30.09‡	764.3‡	.....	.....	60	15.6	76	S	.....	.....	4	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	29.67‡	753.6‡	.....	.....	85	29.4	83	SW	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Fair	
Monongahela, Yokohama, Japan	29.58‡	751.3‡	.....	.....	76	24.4	82	NW	.....	.....	1–2	.....	n	.....	.....	Mod'ate	Mod'ate	.....	.....	Raining	
New Hampshire, Port Royal, S. C.	29.89‡	759.2‡	.....	.....	78	25.6	86	W	19	8.5	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.00‡	762.0‡	.....	.....	61.5	16.4	88	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.70‡	754.4‡	.....	.....	83	28.3	87	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	.....	.....	.....	.....	67	19.4	89	NNW	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.02‡	762.5‡	.....	.....	62	16.7	88	SE	3	1.3	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. Portsmouth, N. H.	29.88‡	758.9‡	.....	.....	60	15.6	88	NNE	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Misty	
Powhatan, N. 25° 05′, W 80° 17′	30.05‡	763.3‡	.....	.....	84	28.9	79	SSE	.....	.....	3	.....	2	.....	Calm	0.30	7.6	Mod'ate	SE	Fair	
Quinnebaug, Trieste, Austria	29.88‡	758.9‡	.....	.....	81	27.2	70	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Fair	
Ranger, Nagasaki, Japan	30.07‡	763.8‡	.....	.....	83	28.3	91	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Overcast?	
Richmond, Yokohama, Japan	29 58‡	751.3‡	.....	.....	76	24.4	91	WNW	.....	.....	2	.....	10	.....	.....	0.19	4.8	Smooth	.....	Light rain	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡	.....	.....	80	26.7	96	SE	.....	.....	1	.....	10	.....	S	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md.	29.99‡	761.7‡	.....	.....	67	19.4	64	N	.....	.....	5	.....	5?	.....	N	0	0	.....	.....	Cloudy?	
Saratoga, New Bedford, Mass.	29.89‡	759.2‡	.....	.....	61	16.1	94	NW	.....	.....	1–2	.....	10	.....	NW	Light	Light	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.99‡	761.7‡	.....	.....	65	18.3	78	N	8	3.6	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Trenton, Grave's End, Eng.	[illegible]	759.2‡	.....	.....	70	21.1	49	NW	.....	.....	2–3	.....	5	.....	Calm	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	[illegible]	761.0‡	.....	.....	60	15.6	94	SW	.....	.....	1–2	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 31° 18′, W. 80° 40′	29.92‡	760.0‡	.....	.....	80	26.7	78	W	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	29.81‡	757.2‡	.....	.....	65	18.3	73	NW	4	1.8	.....	.....	5	.....	.....	0.78	19.8	.....	.....	Foggy	
Wachusett, Key West, Fla.	30.03	762.7‡	.....	.....	85	29.4	79	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
Wyoming, Constantinople, Turkey	29.94‡	760.5‡	.....	.....	81	27.2	62	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity.** †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of **7:35 A. M.,** Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 24° 48', W. 112° 34'...†		30.00‡	762.0‡	75	23.9	95	SE			3		8		SE	0	Small Confused	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, Australia.		29.95‡	760.7‡				S			2		0						Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 29° 18', E. 128° 40'...†		29.81‡	757.2‡	83	28.3	100	WSW			4		5k			0	Mod'ate	WSW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer,																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 38° 24', W. 71° 18'		29.90‡	759.4‡				NNE			4		2?		SW		3	SW	Cloudy†	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally, give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Indiana, N. 47° 21′, W. 33° 36′		29.57‡	751.1‡	62	16 7	100	WNW			6		1		W	0	Light	W	Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 40° 51′, W. 13° 28′		30.24‡	68.1‡	70.6	21.4	87	NW			1		8				2	NNW	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	70.0	21.1	84	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.00	762.0	82.9	28.3	76	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.98	761.4	81.0	27.2	72	NNE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Tourilliere.
La Calle	.....	.....	30.04	763.0	81.3	27.4	76	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.00	762.0	69.2	31.8	16	NNW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.07	763.6	90.5	32.5	30	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	74.8	23.8	47	NNW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	29.97	761.2	95.7	35.4	31	W	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.95	760.6	103.3	39.6	25	E	.....	.....	2	.....	2	.....	.....	0	0	Fair	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.5	29.87	758.8	77.5	25.3	62	NE	.....	.....	2	.....	10	.....	.....	0.878	22.3	Raining	Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.08	738.5	29.82	757.4	66.2	19.0	54	SW	11.4	5.1	.....	.....	2	.....	.....	0.150	3.8	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.96	735.5	29.80	756.9	72.7	22.6	43	NW	.....	.....	1	.....	9cs;s	.....	.....	0.006	0.15	.....	Julius Mikolik.
Gratz	28.67	728.3	29.88	759.0	70.2	21.2	63	S	.....	.....	2	.....	10	.....	.....	0.433	11.0	.....	Andreas Rospini.
Hermannstadt	28.49	723.6	29.85	758.1	75.6	24.2	46	NE	.....	.....	2	.....	5	.....	.....	0.575	14.6	.....	Prof. A. Gottschling.
Kremsmünster	28.62	726.9	29.92	760.0	64.9	18.3	79	NW	.....	.....	2	.....	10	.....	.....	0.276	7.0	.....	Prof. C. Wagner.
Lemberg	28.76	730.6	29.71	754.6	69.8	21.0	80	NW	.....	.....	1	.....	2	.....	.....	0.138	3.5	.....	Dr. T. Stanecki.
Pola	29.75	755.6	29.85	758.3	82.8	28.2	58	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.43	747.4	29.87	758.8	72.0	22.2	52	NW	.....	.....	3	.....	8	.....	.....	0.142	3.6	.....	G. Sanctjohanzer.
Szegedin	29.65	753.0	29.91	759.8	73.0	22.8	59	S	.....	.....	1	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.78	756.3	29.87	758.7	81.3	27.4	55	SE	.....	.....	1	.....	3	.....	.....	0.102	2.6	.....	P. Busin.
Vienna	29.20	741.7	29.93	760.2	70.3	21.3	58	WSW	.....	.....	4	.....	8	.....	.....	0.031	0.8	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:6, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.91	759.7	30.01	762.2	56.6	13.7	.....	N	11	4.9	.....	.....	5	.....	.....	Blank	Blank	Blue sky	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.75	755.6	29.97	761.2	54.7	12.6	.....	SE	10	4.5	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	61.0	16.1	.....	SE	8	3.6	.....	.....	8	.....	.....	.....	.....	Misty	John Hartnup.
Bolton (Sharples)	.....	.....	29.98	761.5	60.8	16.0	.....	WSW	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.89	759.2	29.92	760.0	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.93	760.2	30.02	762.5	68.1	20.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	Misty	H. Todd.
Cardington	.....	.....	30.02	762.5	65.0	18.3	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham, School M. E.	29.89	759.2	30.02	762.5	68.6	20.3	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.96	761.0	30.01	762.2	57	13.9	.....	SE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	63	17.2	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	¼ clouded	J. Costello.
Falmouth, Observatory	29.74	755.4	29.97	761.2	60.3	15.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	The Staff.
Fort Napier (Natal)	27.74	704.6	30.03	762.7	67.5	19.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.81	757.2	30.04	763.0	79	26.1	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling	.....
Galway, Queen's College	.....	.....	29.83	757.7	58	14.4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.87	758.7	29.93	760.2	81.2	27.3	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.76	755.9	29.96	761.0	60.3	15.7	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.03	762.7	61	16.1	.....	NNE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.86	758.4	30.03	762.7	66.4	19.1	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	The Staff, for G.B.Airy.
Guernsey	29.78	756.4	30.00	762.0	64	17.8	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Dr. S.E.Hoskins,F.R.S.
Helston	29.89	759.2	30.01	762.2	65	18.3	.....	SSW	.....	.....	1	.....	10n	.....	.....	0.12	3.0	Foggy	M. P. Moyle.
Holyhead	29.97	761.2	29.99	761.7	60	15.6	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.76	755.9	30.05	763.3	62.0	16.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew, Observatory	29.89	759.2	29.93	760.2	66.0	18.9	.....	WSW	5	2.2	.....	.....	7	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.76	755.9	30.02	762.5	62.0	16.7	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	82.4	28.0	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.91	759.7	30.00	762.0	56	13.3	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.01	762.2	86.5	30.3	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.84	757.9	30.02	762.5	70.6	21.4	.....	SSE	.....	.....	2	.....	7c;k	.....	NNW;SSE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.50	749.3	30.01	762.2	62.6	17.0	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.02	762.5	65	18.3	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	60.3	15.7	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Threatening	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.84	757.9	29.96	761.0	60	15.6	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	30.01	762.2	53	11.7	.....	N	16	7.2	.....	.....	10	.....	.....	.....	.....	Misty	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	86.4	30.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.64	752.8	29.92	760.0	64.1	17.8	.....	SE	.....	.....	2	.....	6	.....	.....	0	0	D. clouds	*W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	64.4	18.0	74	W	.....	.....	2	.....	5	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.01	762.2	61.4	16.3	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	67.8	19.9	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.98	761.5	29.99	761.7	66	15.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.79	756.7	29.81	757.2	62.6	17.0	.....	SSE	11	4.9	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.00	762.0	30.04	763.0	57.5	14.2	.....	WNW	6.3	2.8	.....	10	10	.....	.....	0.100	2.54	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	30.03	762.7	59.3	15.2	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius, Observatory	30.06	763.5	30.25	768.4	70.9	21.6	72	ESE	21.6	9.6	.....	0	4	.....	E	0.08	2.0	Squally	C. Mulddrum.
Melbourne, Observatory	29.81	757.2	29.90	759.4	51.0	10.6	81	NNE	10	4.5	.....	.....	4	.....	.....	0.06	1.5	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00'. E. 28° 45'	29.79‡	756.7‡	77.5	25.3	.....	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt.W.J.L. Wharton.
Atmosphere, N. 49° 25' W. 11° 15'	29.88	758.9	64	17.8	.....	SSW	.....	.....	6	.....	10	.....	.....	6	W	Foggy	.....
Barque Commewyne, N. 49° 35'. W. 27° 45'	29.43‡	747.5‡	57.2	14.0	.....	NNW	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling	Capt. A. Buchan.
Gordon Castle, N. 41° 10', W. 68° 35'	29.91	759.7	68	20.0	.....	NNW	.....	.....	3	.....	10	.....	.....	4	WSW	Overcast	.....
German Brig "W. von Freeden" N. 38° 10', W. 68° 50'	30.10	764.5	80	26.7	.....	WSW	.....	.....	5	.....	8	.....	.....	3	sw&nw	D. clouds	Capt. H. v. Freeden.
Theophane, N. 28° 15'. W. 34° 25'	30.27‡	768.8‡	80.6	27.0	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡ Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upp'r 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.26	667.0	29.98	761.5	66.6	19.2	90	SE	.....	.....	1	9cs	.....	.....	.....	0.5	13.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.59	751.6	29.64	752.8	65.3	18.5	61	WNW	.....	.....	4	.....	3	.....	.....	.....	.....	.....
Fanöe	29.75	755.6	29.77	756.1	59.0	15.0	82	WNW	.....	.....	6	.....	9	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.91	759.8	29.96	760.9	42.1	5.6	94	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy
Stykkisholm (Iceland)	29.98	761.4	30.02	762.5	53.8	12.1	74	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.00	762.1	30.04	763.0	54.3	12.4	78	N	.....	.....	2	.....	6	.....	.....	.....	.....	.....
Vestervig	29.62	752.3	29.73	755.1	57.7	14.3	97	NW	.....	.....	6	.....	9	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.4	30.10	764.4	68.4	20.2	91	N	.....	.....	1	.....	10ks	.....	.....	0.020	0.5	Raining	Collignon, Director.
Amiens, Normal School	29.97	761.1	30.07	763.6	72.7	22.6	49	W	.....	.....	3	.....	2	.....	E	0	0	Slightly cl'dy	Bonvallet, Director.
Arras, Engin'r School	29.80	756.8	30.05	763.2	67.3	19.6	51	W	.....	.....	1	.....	.....	.....	N	0.012	0.3	.....	Klein, Commandant.
Avignon, Normal School	29.91	759.8	29.99	761.8	80.0	30	41	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.51	749.5	30.05	763.2	69.3	20.7	61	N	.....	.....	1	.....	5kn	.....	N	0.217	5.5	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.80	756.8	30.06	763.4	67.5	19.7	55	NW	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.21	741.8	30.08	764.1	67.3	19.6	78	S	.....	.....	1	.....	10	S	.....	2.421	61.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.24	742.8	30.17	766.4	70.0	21.1	87	W	.....	.....	3	.....	n	W	SW	1.57	40.	.....	Marlot, Director.
Bourges, Normal School	29.59	749.4	30.04	763.1	68.7	20.4	91	N	.....	.....	1	.....	n	NW	NW	0.47	12.	.....	M. Gence, Director.
Brest, Naval Observatory	29.75	755.6	29.99	761.8	68.7	20.4	87	W	.....	.....	2	.....	10	.....	W	0.148	3.75	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.67	753.6	30.06	763.5	67.6	30.9	88	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.93	760.3	30.00	762.1	70.0	21.1	72	SW	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	M. Bletrin, Director.
Chartres, Normal School	29.48	748.8	30.02	762.6	69.1	20.6	55	NW	.....	.....	3	.....	10	.....	NE	0.102	2.6	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	755.8	30.07	763.7	69.1	20.6	54	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.73	729.8	30.04	763.0	73.2	22.9	59	W	.....	.....	1	.....	8	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.72	742.2	30.06	763.5	66.2	19	72	NW	.....	.....	1	.....	5ckn	W	W	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.2	30.05	763.2	63.1	28.4	86	NW	.....	.....	5	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.32	744.6	30.06	763.4	74.5	23.6	72	NW	.....	.....	6	.....	8kn	.....	.....	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.88	758.9	30.09	764.9	68.0	20.0	87	SW	.....	.....	1	.....	10	.....	.....	0.165	4.2	Covered	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.05	763.2	68.7	20.4	78	NE	.....	.....	1	.....	8	.....	NE	0.049	1.25	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.19	741.3	30.08	763.9	69.6	20.9	68	N	.....	.....	1	.....	10kn	N	N	0.646	16.4	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.99	761.8	30.10	764.4	67.6	19.8	92	SW	.....	.....	3	.....	.....	.....	SW	0.150	3.80	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.46	748.3	30.07	763.6	72.0	22.2	81	N	.....	.....	1	.....	10	.....	NW	0.063	1.6	Rainy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.72	754.8	29.96	760.9	79.7	26.5	52	WNW	.....	.....	2	.....	4	.....	WNW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	29.03	737.3	30.05	763.2	66.6	19.2	68	NW	.....	.....	1	.....	5kn	NW	NW	.....	.....	Cloudy	Barbier, Director
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nice	29.89	759.3	29.93	760.2	80.6	27.0	71	SW	.....	.....	2	.....	2	SW	SW	0	0	Slightly cl'dy	M. Boissiéré, Director.
Nismes, Normal School	29.79	756.7	29.98	761.5	63.6	34.2	39	NW	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.79	756.7	69.6	20.9	60	WNW	.....	.....	1	.....	6	.....	NW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.77	578.4	.....	.....	55.1	18.4	.....	NW	.....	.....	2	.....	1	.....	NW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.95	760.6	30.05	763.2	83.3	28.5	64	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.1	.....	.....	52.9	11.6	100	W	.....	.....	7	.....	.....	.....	.....	0.295	7.5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.08	764.1	30.11	764.9	68.9	20.5	71	W	.....	.....	1	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.96	761.0	30.01	763.1	68.9	20.5	52	WSW	.....	.....	1	.....	1	.....	NW	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.6	30.02	762.4	68.9	20.5	86	SW	.....	.....	1	.....	8	SW	SW	0.045	1.14	Foggy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.90	759.5	30.07	763.8	68.0	20.0	63	E	.....	.....	1	.....	3	.....	WNW	0	0	Fair	E. Renou, Director.
Tarbes, Normal School	29.07	738.3	30.11	764.7	77.0	25	68	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.42	747.3	30.15	765.7	76.1	24.5	62	NNW	.....	.....	2	.....	1	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.91	759.6	30.10	764.6	69.4	20.8	83	WNW	.....	.....	1	.....	10	.....	W	0.142	3.6	Rainy	Cousin-Marquet.
Versailles, Observatory	29.60	751.9	30.10	764.4	69.4	20.8	53	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.37	746.0	30.07	763.6	71.6	22	83	N	.....	.....	1	.....	10	.....	SW	0.307	7.8	Covered	Nicot, Director
Sub-Stations.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	29.78	756.4	29.81	757.1	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.98	25.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.66	753.3	29.69	754.0	82.2	27.9	86	SE	5.6	2.5	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Grèasque, 322 m., or 1,056 ft.. Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft. Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	739.9	29.97	761.3	69.3	20.7	59	NW			5		5			0.114	2.9	Raining	Prof. Dr. Hoh.
Berlin	29.67	753.7	29.84	758.0	63.1	17.3	73	W			4		7			0.114	2.9	Raining	Prof. Dr. Arndt.
Breslau	29.34	745.2	29.87	758.6	62.2	16.8	59	WNW			3		6			0.291	7.40	Rainy	Royal University Ob'y.
Carlsruhe	29.62	752.3	30.04	763.0	64.4	18.0	59	NW			0		4	NW		1.339	34.0		Albert Senn.
Cassel	29.36	745.8	29.97	761.2	61.9	16.6	63	NW			4		6	W		0.054	1.38		Dr. H. Möhl.
Crefeld	29.23	757.7	29.99	761.8	65.8	18.8	54	NW			5		5k			0.08	2.		Director Lose.
Emden			29.95	760.8	59.9	15.5	84	WNW			3		8			0.630	16.0		Prof. Dr. Prestel.
Frankfort on the Main	29.66	753.4	30.02	762.5	68.5	20.3		SSW			2		4			0	0		Physical Society.
Freienwalde on the Oder	29.79	756.7	29.83	757.7	67.3	19.6	64	SSW			2		2k	SW		0.228	5.8		Dr. Assmann.
Friedrichshafen	28.61	726.8	30.02	762.4	65.3	18.5	77	SW			5		10	SW		0	0		M. Wilhelm.
Hamburg	29.76	755.9	29.83	757.7	56.1	13.4	85	NW			5		10n			0.268	6.8	Squally	Captain F. Hegemann.
Kiel	29.76	755.9	29.78	756.3	61.3	16.3	74	NW			5		6			0.067	1.70		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.26	743.3	29.34	745.3	62.6	17.0	73	W			8		6			1.575	40.0		Prof. E. Luther.
Köslin			29.67	753.6	60.8	16.0		W			2		3			0.043	1.1		H. Müller.
Leipsic Observatory	29.51	749.5	29.92	760.0	63.7	17.6	60	WSW			5		6	WSW		0.315	8.0	Stormy	Prof. Bruhns, Privy Counselor.
Memel	29.43	747.6	29.48	748.8	58.1	14.5	84	W			9		10n					Raining	Skalweit.
Munich (München)	28.20	716.2	30.06	763.5	63.9	17.7	59	W			6		9	SW		0.382	9.7		Dr. C. Lang.
Neufahrwasser	29.66	753.3	29.67	753.7	63.0	17.2	63	WNW			3		10			0.130	3.3		A. Lothes.
Posen	29.55	750.5	29.83	757.7	61.3	16.3	74	W			5		10			0.071	1.8		Dr. Magener.
Strassburg (in Alsace)	29.53	750.1	30.07	763.8	66.4	19.1	55	NE			2		9	SW		0	0		Imp. University Observatory
Stuttgart	29.08	738.7	30.00	762.1	64.4	18.0	47	N			1		4	N		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.52	724.6	30.01	762.2	60.4	15.8	54	NW	9	4			8ck		W	0	0		T. Hopfner.
Wustrow	29.71	754.7	29.74	755.3	61.3	16.3	77	SW			5		5s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:6 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.1	29.82	757.4	97.2	36.2		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.8	29.49	749.1	82.1	27.8	75	W	19.0	8.5			3			0	0	D. clouds	
Deesa	29.14	740.1	29.61	752.0	79.7	26.5	82	SW	18.8	8.4			10		SW	0.18	4.6	Overcast	
Bombay	29.70	754.3	29.74	755.3	80.9	27.2	87	WSW	23.0	10.3			10		W	0.12	3.0	Overcast	
Poona	27.89	708.3	29.75	755.7	74.0	23.3	84	WSW	16.0	6.7			9		W	0.70	17.8	Drizzling	
Lahore	28.68	728.4	29.39	746.6	89.1	31.7	66	NE	5.1	2.3			7			0	0	D. clouds	
Belgaum	27.27	692.6	29.84	758.0	68.0	20.0	94	W	21.0	9.4			10		W	1.17	29.7	Raining	
Roorkee	28.62	727.1	29.52	749.7	77.8	25.4	92	Calm	0.5	0.2			10			1.77	45.0	Gloomy	
Agra	28.98	736.0	29.54	750.2	80.7	27.1	87	SW					10		S	0	0		
Nagpur	28.55	725.2	29.58	751.4	81.3	27.4	82	Calm	4.9	2.2			9		E	0.88	22.4	Gloomy	
Lucknow	29.09	739.0	29.46	748.4	81.3	27.4	96	NNE	1.2	0.5			10			1.26	32.0	Drizzling	
Allahabad	29.20	741.6	29.51	749.5	80.4	26.9	97	NW	2.4	1.1			10		W	2.00	50.8	Overcast	
Patna	29.27	743.5	29.45	748.0	83.6	28.7	84	E	2.6	1.2			6	E	E	0.08	2.0	D. clouds	
Hazaribagh	27.44	697.0	29.43	747.6	76.6	24.8	90	N	6.8	3.0			10		N	0.34	8.6	Showery	
Cuttack	29.43	747.6	29.51	749.6	76.0	24.4	91	SW	11.0	4.9			10			8.32	211.1	Raining	
Calcutta (Alipore)	29.43	747.5	29.45	748.0	78.7	25.9	91	S	9.0	4.0			10		S	0	0	Overcast	
Goalpara	29.20	741.6	29.58	751.4	79.8	26.6	84	SE	4.7	2.1			9			0.78	19.8	D. clouds	
Chittagong	29.67	753.7	29.76	755.9	80.2	26.8	88	SE	10.1	4.5			6			0.02	0.5	Misty	
Sibsagar	29.27	743.5	29.60	752.0	82.2	27.9	86	SE	3.4	1.5			8	SW	SW	2.48	63.0	D. cloud	
Jubbulpore	28.22	716.9	29.58	751.4	77.3	25.2	89	W	7.2	3.2			10		W	0.13	3.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 463.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'r 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.49	749.0	29.88	758.9	76.5	24.7	58	NE	3.1	1.4	.....	.....	8	.....	.....	0.606	15.4	.....	Prof. Giovanni Clodig.
Milan	29.35	745.6	29.85	758.1	83.3	28.5	48	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.5	29.85	758.2	81.5	27.5	54	W	1.3	0.6	.....	.....	4	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.96	735.5	29.82	757.5	82.8	28.2	56	SE	3.8	1.7	.....	.....	4	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.73	755.2	29.91	759.8	77.4	25.2	70	S	8.1	3.6	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	711.0	29.82	757.3	83.1	28.4	47	NE	.....	.....	2	.....	1	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.86	758.5	79.9	26.6	63	NE	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.67	753.5	29.91	759.7	86.0	30.0	45	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Cav. F. Mencci.
Leghorn	29.84	758.0	29.93	760.1	80.6	27.0	60	SW	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.76	755.8	29.93	760.1	83.7	28.7	53	S	16.1	7.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.69	754.0	29.89	759.2	86.0	30.0	46	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.09	738.8	29.93	760.1	89.6	32.0	59	NW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	756.9	29.98	761.6	87.3	30.7	36	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	29.99	761.7	81.9	27.7	59	E	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.8	29.95	760.6	85.3	29.6	63	SE	4.9	2.2	.....	.....	0?	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.0	30.00	762.1	81.1	27.3	64	WSW	2.5	1.1	.....	.....	6	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.73	755.1	29.74	755.4	78.1	25.6	80	SW	3.6	1.6	.....	.....	3s	.....	.....	0	0	Dull	K. Sasaki.
Nagasaki, I. M. Obs'y	29.80	751.8	29.79	756.6	77.4	25.2	94	WSW	0.6	0.3	.....	.....	0	.....	.....	0.316	7.87	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.61	752.1	29.68	753.9	76.7	24.8	81	ESE	7.6	3.4	.....	.....	10s	.....	N	0.055	1.40	Cloudy	The Staff.
Wakayama	29.68	753.9	29.73	755.1	77.5	25.3	82	N	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.5	30.06	763.5	68.6	14.8	77	NE	.....	.....	1	.....	9	.....	Calm	0.84	21.4	Very cloudy	Prof. L. Perez.
Leon	24.43	620.6	30.09	764.4	60.8	16.0	91	SE	.....	.....	1	.....	10n	.....	SE	1.44	36.6	Threatening	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.3	30.07	763.7	55.6	13.1	83	SW	1.1	0.5	.....	1c	6k	S	.....	0.07	1.7	Cloudy	The Staff.
Pabellon (Aguascalientes)					62.6	17.0	91	Calm	.....	.....	0	.....	10n	.....	.....	0.54	13.6	Raining	M. V. de Leon, M. E.
Tlacotalpam	29.91	759.8	29.93	760.1	79.7	26.5	82	SE	.....	.....	2	.....	8	.....	SE	0	0	Threatening	Prof. M. M. Chàzaro.
San Luis Potosi	24.19	614.5	30.10	764.5	62.1	16.7	40	SE	.....	.....	1	.....	10	.....	SE	0.57	14.5	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossel.
Zacatecas	22.56	573.1	30.11	764.7	67.9	14.4	92	W	.....	.....	2	.....	Fog	.....	.....	2.64	67.0	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.43	595.1	30.19	766.7	64.1	12.3	84	SE	0.2	0.1	.....	.....	9ck	.....	NE	0.54	13.8	Very cloudy	Prof. P. Spina.
Colima																			R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.69	754.1	29.98	761.4	72.9	22.7	97	SE	.....	.....	5	.....	10n	.....	SE	2.91	74.0	Rainy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,105.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.89 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.06	763.4	30.06	763.4	63.7	17.6	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.89	759.1	29.94	760.5	59.5	15.3	.....	NW	.....	.....	3	.....	.....	.....	.....	0.051	1.3	.....	
Helder	30.00	761.9	30.00	761.9	58.8	14.9	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.6	30.02	762.6	64.4	18.0	68	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.97	761.3	30.02	762.5	65.3	18.5	66	WNW	.....	.....	3	.....	5	.....	.....	0.059	1.5	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.63	752.6	29.69	754.0	61.2	16.2	79	WNW	10.3	4.6	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.65	753.1	29.69	754.1	66.2	19.0	54	N	9	4	.....	.....	6	.....	.....	0	0	.....	
Christiania	29.41	747.0	29.55	750.6	67.3	19.6	64	N	11	5	.....	.....	8	.....	.....	0.039	1.0	.....	
Tromsö	29.69	754.1	29.73	755.2	66.4	19.1	61	WNW	9	4	.....	.....	1	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.73	755.2	29.92	759.9	74.8	23.8	74	W	18.6	8.3	.....	.....	2	.....	.....	1.299	33.0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.95	760.7	92.8	33.8	17	SSW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	29.98	761.4	30.07	763.6	72.9	22.6	66	SE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.6	30.02	762.5	77.5	25.3	55	SE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.29	769.3	30.37	771.5	75.2	24.0	83	W	6.3	2.8	.....	.....	3	.....	.....	0.819	20.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.5	66.2	19.0	.....	WSW	.....	.....	4	.....	2	.....	WSW	1	wsw	D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.04	762.9	81.0	27.2	.....	E	.....	.....	3	.....	3	.....	E	2	E	D. Clouds, 15 minutes rain-fall	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Sado, Capt. J. A. de Brito Capello, N. 4° 50', W. 10° 35'	.....	.....	30.06	763.5	77.0	25.0	.....	SSW	.....	.....	4	.....	6	.....	SSW	3	wsw	D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.89	759.2	85.1	29.5	.....	SW	.....	.....	4	.....	0	.....	.....	1	SW	Blue sky	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.33	745.0	29.74	755.5	59.0	15.0	75	W	16	7	.....	.....	3ks	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Wilna	29.18	741.2	29.59	751.5	63.5	17.5	64	SW	11	5	.....	.....	9	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.39	746.6	29.63	752.5	63.5	17.5	79	SE	9	4	.....	.....	10n	.....	.....	.....	.....		Prof. Dr. Weihrauch.
St. Petersburg	29.71	754.7	29.73	755.1	73.2	22.9	46	SE	9	4	.....	.....	5ks;s	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	29.07	738.4	29.69	754.2	62.4	16.9	97	S	9	4	.....	.....	10ks;n	.....	.....	.....	.....		Physical Cabinet.
Nikolaiev	29.84	757.8	29.91	759.6	74.3	23.5	67	S	13	6	.....	.....	10n	.....	.....	.....	.....		Kurdakof.
Kertch	29.91	759.6	29.93	760.1	77.0	25.0	77	NE	2	1	.....	.....	0	.....	.....	.....	.....		Lagorio.
Moscow	29.28	743.6	29.50	757.0	69.3	20.7	64	S	7.8	3.5	.....	.....	7ks	.....	.....	.....	.....		Meteorological Obs.
Lugan	29.68	753.9	29.88	758.9	81.3	27.4	35	ESE	2	1	.....	.....	5	.....	.....	.....	.....		Meteorological Obs.
Archangel	29.89	759.3	29.91	759.8	73.4	23.0	60	Calm	0	0	.....	.....	4cs	.....	.....	.....	.....		Capt. Sseliwerstow.
Tiflis	28.53	724.6	29.86	758.4	88.0	31.1	32	SE	4	2	.....	.....	2k	.....	.....	.....	.....	Light clouds	Physical Observatory.
Astrakhan	30.04	763.1	29.96	761.0	82.9	28.3	41	SSW	11	5	.....	.....	8s	.....	.....	.....	.....		Capt. Wisganow.
Krotkowo*	29.45	748.1	29.90	759.5	77.0	25.0	35	S	16	7.2	.....	.....	8	.....	.....	.....	.....		Cand. Fatjanow.
Kasan	29.60	751.9	29.85	758.3	77.4	25.2	46	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....		Physical Cabinet.
Ekaterinburg	28.85	732.9	29.78	756.5	66.9	19.2	44	N	4	2	.....	.....	2ck;k	.....	.....	.....	.....		Meteorological Obs.
Nukuss	29.50	749.4	29.72	755.0	82.9	28.3	36	NNW	9	4	.....	.....	2ks	.....	.....	.....	.....		
Tashkend	28.35	720.2	29.84	758.0	81.3	27.4	56	NW	9	4	.....	.....	0	.....	.....	.....	.....		Teich, A. M.
Barnaul	28.90	734.1	29.38	746.2	63.9	17.7	75	S	7	3	.....	.....	10	.....	.....	.....	.....		Meteorological Obs.
Yeniseisk	29.21	742.0	29.48	748.9	67.8	19.9	75	S	18	8	.....	.....	9	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	Physical Observatory.
Peking (China)	29.48	748.9	29.63	752.5	73.4	23.0	96	Calm	0	0	.....	.....	10n	.....	.....	.....	.....		Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Vladivostock	29.67	753.7	29.77	756.2	67.8	19.9	96	Calm	0	0	.....	.....	3s	.....	.....	.....	.....		
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 456 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.95	760.7	30.05	763.2	82.9	28.3	63	S	4.6	2.06	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.99	761.7	30.04	763.1	86.0	30.0	54	S	2.1	0.94	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.15	689.5	.....	.....	85.1	29.5	37	NE	5.9	2.65	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.84	707.2	29.87	758.8	99.3	37.4	19	W	2.2	1.0	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.88	759.0	30.02	762.6	95.0	35 0	44	ESE	5.8	2.61	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.04	737.6	29.89	759.1	85.5	29.7	48	NE	0	0	.....	0	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.2	30.00	761.9	81.6	27.6	81	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.5	29.91	759.8	84.2	29.0	83	E	4.5	2.0	.....	.....	8n	.....	E	0.059	1.5	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.7	30.00	762.1	87.6	30.9	60	NW	5.7	2.5	.....	3	0	E	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.8	30.00	762.1	80.6	27.0	84	SE	0	0	.....	1s	2k	SE	SE	0.030	0.75	Clear	Leonardo deTejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount.. Up'er 0—10.	Clouds. Amount.. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.78	756.4	29.82	757.4	67.(	19.8	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.68	753.8	29.73	755.1	67.3	19.6	67	SE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.66	753.3	29.71	754.6	63.7	17.6	94	NE	.....	.....	2	.....	5	.....	.....	0.071	1.8	.....	
Stockholm	29.39	746.4	29.56	750 0	65.7	18.7	65	F	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	
Wisby	29.49	749.1	29.55	750.6	66.5	13.6	96	NNW	.....	.....	6	.....	10	.....	.....	0.035	0.9	Raining	
Sub-Series.																			
Upsala	29.50	749.3	29.59	751.5	66.4	19.1	63	ENE	5.4	2.4	.....	.....	4	SE	NE	0 007	0.18	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.65	727.8	30.08	762.7	71.8	22.1	71	SSW	.....	.....	3	.....	10	.....	.....	0.335	8.5	Covered..	The Observatory.
Zurich	28.46	722.9	30.08	764.0	59.4	15.2	88	W	.....	.....	2	.....	8	.....	.....	0.028	0.7	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0 mm.; Thermometer, —0 Cent.; Relative Humidity, +17 per cent

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.81	757.2	89.8	32.1	36	NNE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.05	763.2	92.3	33.5	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.64	752.8	29.76	755.6	88.2	31.2	64	W	.....	.....	2	.....	1k	.....	SW	0	0	D. clouds	Prof. C.V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.77	756.1	29.83	757.7	59	15.0	94	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	G. A. Biah.
Charlottetown, P. E. Island	29.81	757.2	29.85	758.2	60	15.6	89	SW	1	0.4	.....	.....	10n	.....	.....	0.165	4.19	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.73	755.1	29.92	760.0	55.2	12.9	82	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.82	757.4	59	15.0	88	W	.....	.....	1	0	2ks	.....	.....	0.15	3.8	Clearing	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.74	755.4	29.76	755.9	57	13.9	84	SW	10	4.5	.....	2cs	2ks	W	W	0.06	1.5	Clear	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.86	758.4	57 7	14.3	72	NW	7	3.1	.....	10cs	0	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.09	738.9	29.89	759.2	63	17.2	94	SE	5	2.2	.....	2ck	2ks	W	W	0.540	13.72	Fair	James Stewart.
Granton, Ontario	28.95	735.3	30.04	763.0	51	10.6	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.76	755.9	29.86	758.9	60	15.6	94	Calm	0	0	.....	.....	10n	.....	.....	0.189	4.80	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.71	754.6	30.07	763.8	55 3	12.9	74	NW	.....	.....	2	3ck	0	NW	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.99	761.7	61	16.1	64	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.76	755.9	29.79	756.7	59.8	15.4	95	S	5	2.2	.....	.....	10n	.....	.....	0.26	6.6	Misty	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.75	755.6	29.95	760.7	58	14.4	76	W	8	3.6	.....	5k	5ks	N	NW	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	29.97	761.2	61	16.1	80	W	16	7.2	.....	2ck	2s	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.25	742.9	29.99	761.7	57.7	14.3	78	SW	.....	.....	2	2k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.37	746.0	30.06	763.5	52	11.1	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.42	747.3	30.06	763.5	56	13.3	87	NW	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.59	751.6	29.90	759.4	56	13.3	87	NW	.....	.....	3	0	2s	.....	NW	0.01	0.03	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.52	749.8	29.97	761.2	50	10.0	89	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	57	13.9	80	NW	.....	.....	1	5k	5ks	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.72	754.9	29.88	758.9	59	15.0	79	SW	2	0.9	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.29	744.0	29.99	761.7	57	13.9	86	S	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.76	755.9	29.80	756.9	58	14.4	97	NW	7	3.1	.....	.....	10n	.....	N	0.12	3.0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.67	753.6	30.00	762.5	52	11.1	71	NW	5	2.2	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.83	757.7	29.85	758.2	63.0	17.2	91	W	1	0.4	.....	.....	10k	.....	.....	0.11	2.8	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.12	765.0	53.0	11.7	92	E	.....	.....	.....	.....	10n	.....	.....	0.17	4.3	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.79	756.7	30.02	762.5	57	13.9	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.31	744.5	29.94	760.5	55	12.8	81	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Threatening	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	46	7.8	100	W	3	1.3	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Atlanta, Georgia	28.92	734.6	30.04	763.0	64	17.8	73	E	10	4.5	.....	8c	Haze	Calm	Calm	0	0	Fair	
Atlantic City, New Jersey	30.00	762.0	30.01	762.2	61	16.1	66	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Augusta, Georgia	29.92	760.0	30.12	765.0	68	20.0	60	NE	2	0.9	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Baltimore, Maryland	30.03	762.7	30.08	764.0	62	16.7	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Barnegat, New Jersey	29.97	761.2	30.00	762.0	61	16.1	61	N	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.16	715.3	30.02	762.5	58	14.4	76	N	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Boerne, Texas	28.63	727.2	29.91	759.7	68	20.0	95	NE	5	2.2	.....	.....	10n	.....	E	1.28	32.5	Light rain	
Boise City, Idaho	27.15	689.6	30.11	764.8	69	20.6	39	SE	4	1.8	.....	10k	Sm'e	SW	Calm	0	0	Cloudy	
Boston, Massachusetts	29.81	757.2	29.96	761.0	62	16.7	56	NW	7	3.1	.....	2c	0	W	.....	0	0	Fair	
Brackettville, Texas	28.90	734.0	29.91	759.7	66	18.9	100	N	11	4.9	.....	.....	10n	.....	Calm	1.62	41.1	Heavy rain	
Breckenridge, Minnesota	28.92	734.8	29.89	759.2	58	14.4	83	SW	6	2.7	.....	5c	0	SW	.....	0	0	Fair	
Brownsville, Texas	29.90	759.4	29.94	760.5	80	26.7	84	SE	4	1.8	.....	.....	10n	.....	SE	0.45	11.4	Heavy rain	
Buffalo, New York	29.84	745.2	30.03	762.7	58	14.4	64	W	3	1.3	.....	1cs	0	W	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	52	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.69	754.1	29.97	761.2	59	15.0	65	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.80	756.9	30.18	766.6	67	19.4	64	Calm	0	0	.....	1ck	0	N	.....	0	0	Clear	
Campo, California	27.44	697.0	30.00	762.0	66	18.9	64	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.91	759.7	29.92	760.0	70	21.1	80	NE	26	11.6	.....	.....	10s	.....	NE	2.74	69.6	Cloudy	
Cape Henry, Virginia	29.89	761.7	30.01	762.2	66	18.9	69	N	6	2.7	.....	1cs	0	N	.....	1.70	43.2	Clear	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	68	20.0	74	NE	30	13.4	.....	.....	10s	.....	NE	1.92	48.8	Cloudy	
Cape May, New Jersey	29.89	761.7	30.02	762.5	62	16.7	61	N	26	11.6	.....	0	0	.....	.....	0.09	2.3	Clear	
Castroville, Texas	29.26	743.2	29.95	760.7	70	21.1	90	NW	4	1.8	.....	.....	10n	.....	Calm	3.18	80.8	Light rain	
Charleston, South Carolina	30.00	762.0	30.05	763.3	67	19.4	64	N	9	4.0	.....	0	0	.....	.....	0.30	7.6	Clear	
Charlotte, North Carolina	29.23	742.4	30.03	762.7	63	17.2	83	N	4	1.8	.....	5c	Sm'e	Calm	Calm	0.85	21.6	Fair	
Chattanooga, Tennessee	29.32	744.7	30.11	764.8	62	16.7	61	NE	1	0.4	.....	8cs	Haze	Calm	Calm	0	0	Dense haze	
Cheyenne, Wyoming	24.26	616.2	30.20	767.1	54	12.2	43	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.36	745.7	30.04	763.0	62	16.7	67	SW	6	2.7	.....	Haze	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.52	749.8	30.16	766.1	59	15.0	76	E	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.36	745.7	30.08	764.0	58	14.4	64	S	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.29	7.4	.....	
Columbus, Ohio	29.50	744.2	30.13	765.3	55	12.8	74	NW	3	1.3	.....	c	Haze	.....	Calm	0	0	Clear	
Concho, Texas	28.24	717.3	29.90	759.4	63	17.2	83	N	4	1.8	.....	5k	5s	Calm	N	0.35	8.9	Fair	
Corsicana, Texas	29.65	753.1	30.11	764.8	67	19.4	89	NE	4	1.8	.....	.....	10ks	.....	Calm	0.09	2.3	Cloudy	
Davenport, Iowa	29.46	748.3	30.09	764.3	62	16.7	72	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy	
Deadwood, Dakota	25.56	649.2	.....	.....	53	11.7	67	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.99	736.3	30.12	765.0	75	23.9	86	E	7	3.1	.....	0	5k	.....	SE	0	0	Fair	
Denison, Texas	29.35	745.5	30.14	765.6	65	18.3	94	N	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Denver, Colorado	25.00	635.0	30.22	767.6	53	11.7	67	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.19	741.4	30.06	763.6	60	15.6	77	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Detroit, Michigan	29.37	746.5	30.05	763.3	56	13.3	75	W	4	1.8	.....	2ck	Haze	Calm	Calm	0	0	Clear	
Dodge City, Kansas	27.61	701.3	29.86	758.4	62	16.7	77	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.06	763.5	64	17.8	78	W	3	1.3	.....	5k	Haze	SW	Calm	0	0	Fair	
Duluth, Minnesota	29.23	742.4	29.88	758.9	65	18.3	78	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Eagle Pass, Texas	29.24	742.7	29.95	760.7	70	21.1	95	NE	14	6.3	.....	.....	10n	.....	Calm	2.11	53.6	Light rain	
Eastport, Maine	29.81	757.2	29.88	758.9	57	13.9	81	NW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	10s	.....	E	3.38	85.9	Cloudy	
El Paso, Texas	26.41	670.8	.....	.....	57	13.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.35	745.5	30.06	763.5	60	15.6	60	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.23	742.4	29.86	758.4	62	16.7	77	W	11	4.9	.....	2k	0	N	.....	0.07	1.8	Fair	
Florence, Arizona	28.49	723.6	30.09	764.3	74	23.3	55	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.90	709.9	29.72	754.9	62	16.7	71	W	6	2.7	.....	1c	0	W	.....	0	0	Clear	
Fort Davis, Texas	25.37	644.4	30.33	770.4	52	11.1	86	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort Gibson, Indian Ter	29.61	752.1	30.14	765.5	66	18.9	79	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Fort Grant, Arizona	25.37	644.4	30.17	766.3	67	19.4	42	S	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.91	759.7	30.17	766.3	61	16.1	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.47	697.7	.....	.....	65	18.3	63	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.86	707.6	29.76	755.9	63	17.2	89	NE	10	4.5	.....	.....	10s	.....	NE	1.20	30.5	Threatening	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.94	735.1	30.05	763.3	59	15.0	88	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.06	712.7	.....	.....	61	16.1	82	E	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	73	22.8	43	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.69	754.1	67	19.4	64	N	2	0.9	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Galveston, Texas	30.02	762.5	30.06	763.5	75	23.9	90	NE	12	5.4	.....	.....	10s	.....	NE	Inap.	Inap.	Threatening	
Graham, Texas	29.77	758.4	30.12	765.0	62	16.7	94	Calm	0	0	.....	2cs	0	S	.....	0	0	Fair	
Grand Haven, Michigan	29.35	745.5	29.98	761.5	67	19.4	74	SW	15	6.7	.....	Haze	5s	Calm	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.18	741.1	30.13	765.3	65	18.3	84	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.35	745.5	30.12	765.0	60	15.6	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.02	762.5	30.05	763.3	74	23.3	95	NE	2	0.9	.....	.....	10s	.....	NE	0.84	21.3	Threatening	
Jacksboro, Texas	29.96	758.1	30.18	766.6	65	18.3	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.99	761.7	30.02	762.5	75	23.9	74	NE	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Keokuk, Iowa	29.47	748.5	30.07	763.8	64	17.8	83	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	83	28.3	71	E	4	1.8	.....	5k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.91	759.7	68	20.0	74	NE	40	17.9	.....	0	2s	.....	NE	1.37	34.8	Fair	
Knoxville, Tennessee	29.14	740.1	30.13	765.3	60	15.6	82	NE	3	1.3	.....	5cs	Fog	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	61	16.1	77	S	8	3.6	.....	8k	0	S	.....	0	0	Clear	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	57	13.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.56	750.8	29.96	760.4	70	21.1	100	NW	4	1.8	.....	.....	10n	.....	.....	2.18	55.4	Light rain	
Leavenworth, Kansas	29.27	743.4	30.09	764.3	63	17.2	67	S	2	0.9	.....	2k	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.83	757.7	30.19	766.8	65	18.3	89	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.59	751.6	29.92	760.0	66.6	18.9	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.66	753.8	30.14	765.5	64	17.8	63	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.42	747.3	30.08	764.0	65	18.3	63	N	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	29.04	737.6	29.99	761.7	63	17.2	72	SW	5	2.2	.....	10cs	0	W	.....	0	0	Cloudy	
Marquette, Michigan	29.15	740.4	29.82	757.4	64	17.8	78	NW	12	5.4	.....	0	5ks	.....	NW	0.06	1.5	Fair	
Mason, Texas	28.47	723.1	30.21	767.3	65	18.3	94	NE	4	1.8	.....	.....	10n	.....	NE	0.46	11.7	Light rain	
Memphis, Tennessee	29.82	757.4	30.16	766.1	64	17.8	78	N	4	1.8	.....	0	5ks	.....	SW	0	0	Fair	
Milwaukee, Wisconsin	29.28	743.7	29.99	761.7	62	16.7	67	SW	12	5.4	.....	5ck	0	NW	.....	0	0	Fair	
Mobile, Alabama	30.02	762.5	30.06	763.5	71	21.7	80	N	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Montgomery, Alabama	29.84	757.9	30.07	763.8	67	19.4	74	N	3	1.3	.....	8ck;cs	0	W	.....	0	0	Fair	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.14	740.1	30.12	765.0	59	15.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.	23.77	603.8	30.13	765.3	34	1.1	100	N	16	7.2	.....	.....	Fog	.....	N	0	0	Foggy	
Nashville, Tennessee	29.61	752.1	30.14	765.5	61	16.1	82	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
New Haven, Connecticut	29.86	758.4	29.98	761.5	63	17.2	62	N	10	4.5	.....	2ck	0	Calm	.....	0	0	Clear.....	
New London, Connecticut	29.91	759.7	29.96	760.7	64	17.8	53	NW	6	2.7	.....	2c;k	0	sw; nw	.....	0	0	Clear.....	
New Orleans, Louisiana	30.00	762.0	30.05	763.3	77	25.0	69	N	10	4.5	.....	5cs	0	Calm	.....	1.11	28.2	Fair.....	
Newport, Rhode Island	29.89	759.2	29.94	760.5	62	16.7	61	N	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy.....	
New York, New York	29.84	757.9	30.01	762.2	61	16.1	60	NW	8	3.6	.....	2k	Haze	NW	Calm	0	0	Fair	
Norfolk, Virginia	29.96	761.0	30.02	762.5	68	20.0	65	NE	14	6.3	.....	1ck	0	NE	.....	0.65	16.5	Clear.	
North Platte, Nebraska	27.22	691.4	29.76	755.6	58	14.4	88	W	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	52.0	11.1	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska	28.89	733.8	29.96	760.7	67	19.4	74	S	6	2.7	.....	2c	0	Calm	.....	0	0	Clear.....	
Oswego, New York	29.71	754.6	30.03	762.7	60	15.6	71	NE	1	0.4	.....	1k	Haze	NW	Calm	0	0	Clear.....	
Pembina, Dakota	29.00	736.6	29.79	756.7	55	18.3	78	E	14	6.3	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Philadelphia, Pa	29.98	761.5	30.04	763.0	60	15.6	60	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona	28.72	729.5	30.43	772.9	78	26.6	46	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	18.13	460.5	30.34	770.6	35	1.7	70	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	29.18	741.1	29.95	760.7	84	28.9	72	S	10	4.5	.....	8k	2s	SE	S	2.00	50.8	Cloudy.....	
Ploche, Nevada	.....	.....	.....	.....	63	17.2	38	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.29	744.0	30.10	764.5	55	12.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan	29.38	746.2	30.03	762.7	52	11.1	73	SW	5	2.2	.....	10ck	0	NW	.....	0	0	Cloudy	
Portland, Maine	29.89	759.2	29.94	760.5	62	16.7	61	N	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy.	
Portland, Oregon	30.01	762.2	30.08	764.0	60.8	16.0	83	Calm	0	0	.....	0	5ks	.....	S	0	0	Fair	
Prescott, Arizona	24.88	631.9	30.24	768.1	60	15.6	82	SW	.....	.....	1	0	0	.....	.....	0.03	0.8	Clear.....	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	77	25.0	77	NW	13	5.8	.....	0	8ks	.....	NW.	0.17	4.3	Threatening	
Red Bluff, California	29.88	751.8	29.92	760.0	74	23.3	40	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	29.78	756.4	29.98	761.5	72	22.2	95	NE	3	1.3	.....	.....	10s	.....	SE	0.86	21.8	Cloudy	
Rochester, New York	29.42	747.3	30.03	762.7	57	13.9	75	W	3	1.3	.....	1k	Haze	Calm	.....	0	0	Clear.....	
Roseburg, Oregon	29.54	750.3	30.09	764.3	62	16.7	80	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Clear.	
Sacramento, California	29.85	758.2	29.94	760.5	61	16.1	71	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.68	753.8	30.15	765.8	64	17.8	68	E	3	1.3	.....	8k	Sm'e	Calm	.....	0	0	Fair.....	
St. Marks, Florida	30.01	762.2	30.02	762.5	72	22.2	80	E	4	1.8	.....	1cs	0	Calm	.....	0	0	Clear.....	
St. Paul, Minnesota	29.11	739.4	29.91	759.7	63	17.2	83	SW	5	3.6	.....	2ck	0	NW	.....	0	0	Clear.....	
Salt Lake City, Utah	25.74	653.8	30.07	763.8	66	18.9	28	SE	4	1.8	.....	4c	0	W	.....	0	0	Fair.....	
San Antonio, Texas	29.37	746.0	29.94	760.5	71	21.7	85	N	4	1.8	.....	.....	10n	.....	N	2.38	60.5	Light rain..	
San Diego, California	29.87	758.7	29.94	760.5	68	20.0	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.44	747.8	30.11	764.8	56	13.3	69	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.97	761.2	30.00	762.0	62	16.7	61	N	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California	29.95	760.7	30.02	762.5	54	12.2	87	SW	6	2.7	.....	.....	Fog	.....	SW	0	0	Foggy	
Santa Fé, New Mexico	23.52	597.4	30.06	763.5	51	10.6	72	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.97	761.2	30.06	763.5	67	19.4	69	NE	9	4.0	.....	0	Haze	.....	Calm	0.52	13.2	Clear.....	
Shreveport, Louisiana	29.90	759.4	30.12	765.0	67	19.4	89	N	4	1.8	.....	.....	10s	.....	NW	0.89	22.6	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.98	761.5	30.02	762.5	64	17.8	89	N	14	6.3	.....	2cs	0	SW	.....	0.26	6.6	Fair.....	
Socorro, New Mexico	25.61	650.5	29.68	753.9	61	16.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Ill	29.48	748.8	30.13	765.3	67.5	19.7	67	SW	2	0.9	.....	0	5s; sm'e	.....	NW;Calm	0	0	Fair.....	
Springfield, Massachusetts	29.85	758.2	29.88	758.9	64	17.8	53	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	27.01	686.0	30.01	762.2	71	21.7	11	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Thatcher's Island, Mass	29.93	760.2	29.98	761.5	60	15.6	88	NW	11	4.9	.....	5k	2s	W	Calm	0	0	Fair.....	
Toledo, Ohio	29.41	747.0	30.09	764.3	58	14.4	70	W	7	3.1	.....	Haze	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.60	701.0	30.16	765.8	75	23.9	47	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.60	751.8	30.08	764.0	68.0	20.0	42	SE	4	1.8	.....	0	2ks	.....	W	0	0	Fair.....	
Uvalde, Texas	29.14	740.1	29.94	760.5	68	20.0	95	NE	8	3.6	.....	.....	10n	.....	NE	3.40	86.4	Light rain..	
Vicksburg, Mississippi	29.86	758.4	30.12	765.0	68	20.0	79	NE	4	1.8	.....	.....	10s	.....	NE	0.44	11.2	Cloudy.....	
Virginia City, Montana	24.45	621.0	29.93	760.2	64	17.8	80	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.56	750.8	29.92	760.0	69	20.6	37	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.96	761.0	30.08	764.0	61	16.1	61	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.92	760.0	30.00	762.0	63	17.2	78	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.73	653.5	30.09	764.3	65	18.3	41	SW	10	4.5	.....	5k	Haze	W	Calm	0	0	Fair.....	
Wood's Holl, Mass	29.88	758.9	29.91	759.7	63	17.2	72	NE	12	5.4	.....	.....	10ks	.....	NE	0	0	Cloudy.....	
Yankton, Dakota	28.74	730.0	30.02	762.5	57	13.9	87	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog...	
Yuma, Arizona	29.74	755.4	29.90	759.4	80	26.7	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	84	28.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrauc
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	78	25.6	83	NW	.....	.....	.....	8c	2s	Calm	.....	0	0	Fine.....	James Gall.
Medellin, Colombia, S. A.*	25.28	642.1	.....	.....	65.5	18.6	85	Calm	.....	.....	0	.....	10n	.....	.....	0.63	16.0	.....	Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.04	763.0	30.04	763.0	82	27.8	75	E	.....	.....	2	3c	4k	E	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	29.92	752.3	29.63	752.6	82	27.8	79	E	5	2.2	.....	2c	2ks	E	.....	0	0	Clear.....	G. O. Gellich.
York Factory, B. A.	30.03	762.7	30.08	764.0	42.0	5.6	96	E	14	6.3	.....	0	2s	.....	E	0	0	Fair	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,293 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625(?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,661 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,450 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.35‡	770.9‡			80	26.7	91	NE	6	2.7			8		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.65‡	753.1‡			77.2	25.1	87	E			3		7ks		W	0	0			Cloudy	
Adams. Mare I'd, Navy Yard, Cal.	29.98‡	761.5‡			58	14.4	94	SSW			4–3	10			SSW					Cloudy.	
Alliance, Stockholm, Sweden	29.60‡	751.8‡			66	18.9	74	E			3		8		E					Cloudy	
Ashuelot, Yokohama, Japan	29.66‡	753.4‡			78	25.6	86	SSE			2		8					Smooth		Cloudy	
Colorado, New York, N. Y.	29.95‡	760.7‡			62	16.7	66	N	8	3.6			2			0	0			Clear	
Constellation, Newport, R. I.	29.93‡	760.2‡			60.5	15.8	65	N			4		8		N	0	0			Cloudy	
Constitution, Navy Yard, Brooklyn, N.Y.	30.03‡	762.7‡			62	16.7	61	NNE			2		7		NE					Cloudy	
Enterprise, N. 57° 40′, E. 9° 34′	29.60‡	751.8‡			61	16.1	94	WNW			3–4		6		NW			Mod'ate	N	D. clouds	
Essex, S 26° 51′, W. 43° 13′	29.73‡	755.1‡			60	15.6	88	WNW			8		8		WNW			Heavy cross		Threatening	
Franklin, Norfolk, Va.	30.00‡	762.0‡			68	20.0	60	NNE	10.8	4.8			5		NNE	0.8	20.			Fair	
Hartford Rio de Janeiro, Brazil	29.91‡	759.7‡			64	17.8	34	NW	6	2.7			2		NW	0	0			Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.98‡	761.5‡			60	15.6	88	SW	7.2	3.2			7		SW	0	0			Cloudy	
Kearsarge, Shediac, New Brunswick.	29.85‡	758.2‡			62	16.7	88	Calm			0		10					Smooth		Hazy	
Michigan, Chicago, Ill.	30.01‡	762.2‡			60	15.6	82	SSW			4									Hazy	
Monocacy, Shanghai, China	29.68‡	753.9‡			85	29.4	87	SW			2		0							Clear	
Monongahela, Yokohama, Japan	29.68‡	753.9‡			79	26.1	82	ESE			1		k			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.04‡	763.0‡			68	20.0	74	NE	16	7.2			2		NE	0.2	5.			Fair	
Onward, Callao, Peru.	30.03‡	762.7‡			62	16.7	77	SE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.69‡	754.1‡			82	27.8	96	SSE			2		0							Clear	
Passaic, Washington, D. C.					65	18.3	84	N			2		0							Clear	
Pensacola, Callao, Peru	30.07‡	763.8‡			62	16.7	83	SSE	1	0.4			10					Smooth		Overcast	
Portsmouth. Portsmouth, N. H.	29.95‡	760.7‡			60	15.6	55	NNW			2		2		NW			Smooth		Clear	
Powhatan, N. 24° 25′, W 81° 56′	30.02‡	762.5‡			84	28.9	75	E			2		2		Calm	0.05	1.3	Smooth		Fair	
Quinnebaug, Trieste, Austria.	29.85‡	758.2‡			79	26.1	60	E			1		8		E					Fair	
Ranger, Nagasaki, Japan§	30.01‡	762.2‡			83	28.3	91	Calm			0		2		Calm			Smooth		Clear	
Richmond, Yokohama, Japan	29.70‡	754.4‡			80	26.7	87	E			3		8			0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡			76	24.4	100	S			1		10		S;E	1.63	41.4			Drizzling	
Santee, Annapolis, Md.	30.04‡	763.0‡			63	17.2	72	N			3		2		E	0	0			Clear	
Saratoga, New Bedford, Mass.	29.81‡	757.2‡			61	16.1	85	N			4		8		Calm	0	0			D. clouds	
St. Louis, League Island, Pa	30.02‡	762.5‡			63	17.2	78	NNW	8	3.6			0			0	0			Clear.	
Trenton, Grave's End, Eng.	30.02‡	762.5‡			81	27.2	29	Calm			0		5		Calm	0	0	Smooth		Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.92‡	760.0‡			61	16.1	88	SW			3–4		10		Calm	0	0	Smooth		Foggy	
Vandalia, N. 29° 41′, W. 80° 58′	30.00‡	762.0‡			80	26.7	82	NE			2		8		SE			Ground	E	Cloudy	
Wabash, Boston, Mass.	29.94‡	760.5‡			61	16.1	66	N	4	1.8			5			0	0			Cloudy	
Wachusett, Sand Key Light House, Fla.	30.04‡	763.0‡			85	29.4	79	ESE			3		2		E			Smooth		Fair	
Wyoming, Erekli, Bulgaria	29.82‡	757.4‡			82	27.8	56	N			3		0					Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Panger appear to be unrealiable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 21° 63', W. 108° 48'..†		29.96‡	761.0‡	80	26.7	91	SW			3		10		W	0	Mod'ate	SW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connors.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, Australia		29.95‡	760 7‡				S			2		0						Clear	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 27° 41', E. 125° 18'...†		29.82‡	757.4‡	82	27.8	100	SW			4		4k			0	Mod'ate	SW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 30° 40', W. 66° 57'		29.82‡	757.4‡				SW			4		10		WSW	7	S		Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 59', W. 26° 53'..	.....	29.50‡	749.3‡	68	14.4	94	SSE	.....	.....	2	.....	8	.....	SE	0	Light	W	Cloudy..	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
S. S. Pennsylvania..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen
Schooner Charley Buck.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax",....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Schooner Harry and Fred.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner
§Iron Cross, N. 40° 25', W. 13° 46'.	.....	0.03‡	762 7‡	70.5	21.4	87	SSW	.....	.....	1	.....	4	.....	.....	.....	2	NNW	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
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Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

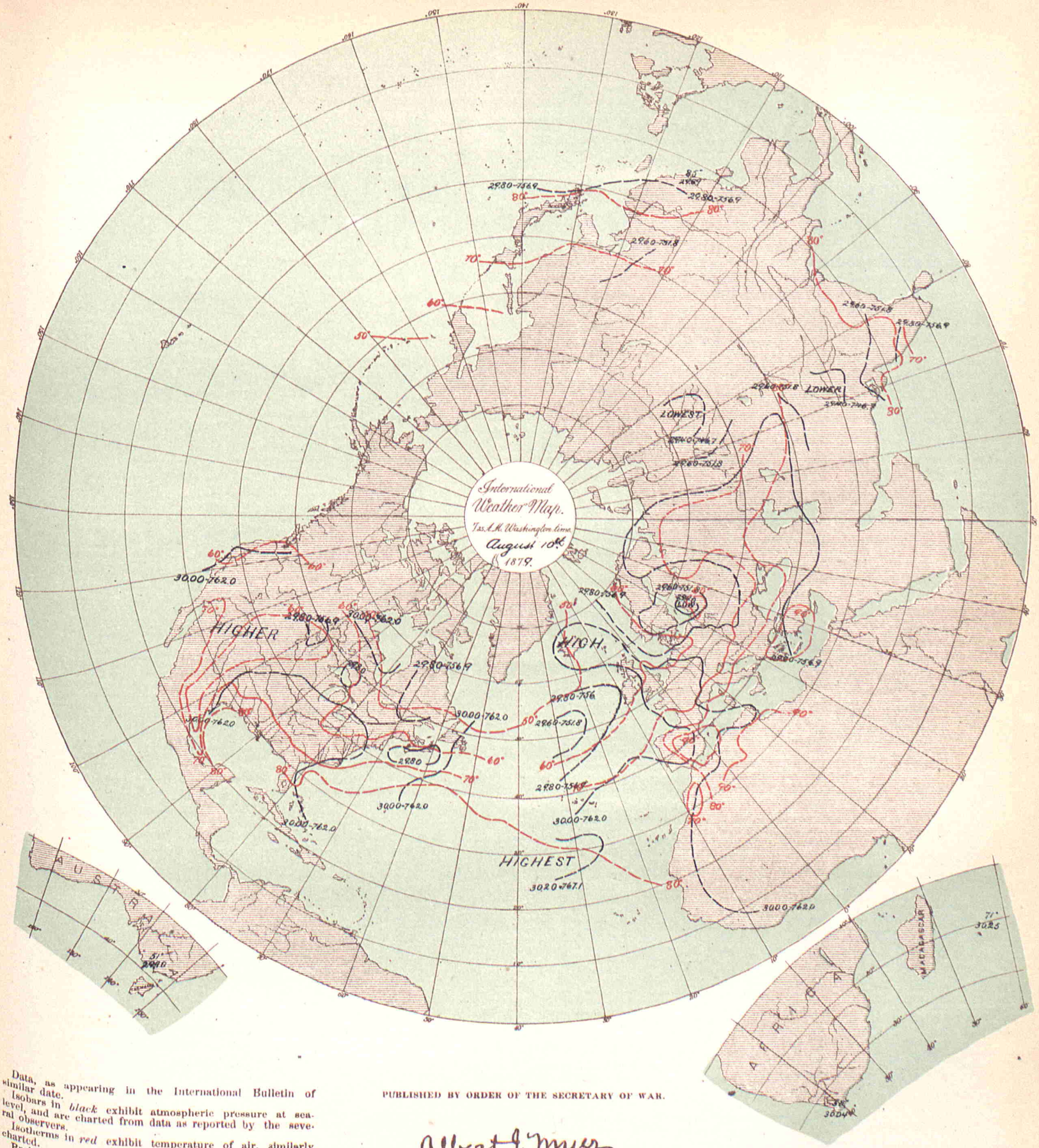
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near lar. stations. The "weather" is generally published as given. D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 11, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.99	761.7	71.2	21.8	86	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.86	758.5	80.2	26.6	72	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.84	758.0	81.3	27.4	74	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.91	759.8	79.7	26.5	82	ENE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.87	758.6	68.3	31.5	18	W	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Geriville	.....	.....	29.95	760.8	95.0	35.0	25	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	77.0	25.0	28	SSW	.....	.....	8	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Biskra	.....	.....	29.90	759.5	99.7	37.6	30	SW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
.....	.....	.....	29.85	758.2	103.3	39.6	25	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.47	748.5	30.00	762.0	71.8	22.1	47	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.14	740.2	29.89	759.3	61.9	16.6	60	W	13.7	6.1	.....	.....	10	.....	.....	0.075	1.9	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.98	736.0	29.83	757.6	67.6	19.8	46	NW	.....	.....	3	.....	9ks	.....	SE	0	0	.....	Julius Mikolik.
Gratz	28.76	730.6	29.97	761.3	68.9	20.5	64	SW	.....	.....	3	.....	0	.....	.....	0.315	8.0	.....	Andreas Rospini.
Hermannstadt	28.50	724.0	29.92	760.0	56.8	13.8	92	WNW	.....	.....	3	.....	1	.....	.....	0.008	0.2	.....	Prof. A. Gottschling.
Kremsmünster	28.67	728.3	29.98	761.4	66.9	19.4	74	WNW	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.84	732.4	29.80	756.8	61.2	16.2	71	NW	.....	.....	3	.....	2	.....	.....	0.102	2.7	.....	Dr. T. Stanecki.
Pola	29.85	758.2	29.96	760.9	80.2	26.8	27	ESE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.47	748.6	29.88	759.0	67.5	19.7	49	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	G. Sanctjohanzer.
Szegedin	29.69	754.2	29.97	761.1	69.1	20.6	57	W	.....	.....	2	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.85	758.1	29.95	760.7	80.4	26.9	55	NE	.....	.....	2	.....	0	.....	.....	0	0	Very clear	P. Busin.
Vienna	29.28	743.7	30.01	762.2	69.1	20.6	50	W	.....	.....	3	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.90	759.4	29.99	761.7	59.4	15.2	.....	S	13	5.8	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.92	760.0	29.94	760.5	61	16.1	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.69	754.1	29.91	759.7	69.6	20.9	.....	S	11	4.9	.....	.....	3	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	69.3	20.7	.....	E	19	8.5	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	29.96	761.0	70.0	21.1	.....	SW	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.59	751.6	29.98	761.5	68.0	20.0	.....	W	.....	.....	2	.....	8	.....	.....	0	0	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.94	760.5	81.5	27.5	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast..	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.90	759.4	29.99	761.7	72.5	22.5	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	29.99	761.7	73.6	23.1	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.89	759.2	30.02	762.5	65.9	18.8	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper. R. E.
Donaghadee	29.90	759.4	29.94	760.5	60	15.6	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	65	18.3	.....	ESE	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.72	754.9	29.94	760.5	62.9	17.2	.....	E	.....	.....	3	.....	9	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier (Natal)	27.69	703.3	29.98	761.5	66.5	19.2	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.84	757.9	30.08	764.0	79	26.1	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.79	756.7	70	21.1	.....	S	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.82	757.4	29.88	758.9	81.5	27.5	.....	E	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.75	755.6	29.95	760.7	66.2	19.0	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.05	763.3	30.05	763.3	63	17.2	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.83	757.7	30.00	762.0	71.7	22.1	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.67	753.6	29.88	758.9	65	18.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.98	761.5	30.00	762.0	69	20.6	.....	E	.....	.....	1	.....	2ck	.....	.....	0.15	3.8	Fine.....	M. P. Moyle.
Holyhead	29.97	761.2	29.96	761.0	71	21.7	.....	SW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.68	753.9	29.96	761.0	74.2	23.4	.....	E	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds....	J. Fisher.
Kew, Observatory	29.96	761.0	30.00	762.0	70.0	21.1	.....	ESE	10	4.5	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.74	755.4	29.99	761.7	70.3	21.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.77	756.1	29.84	757.9	87.2	30.7	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.85	758.2	29.94	760.5	62	16.7	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.00	762.0	80.5	26.9	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Drizzling	C. S. Duncombe.
Nottingham, Observatory	29.82	757.4	30.00	762.0	78.3	25.7	.....	SSE	.....	.....	3	.....	7k	.....	SSE	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.47	748.5	29.98	761.5	72.0	22.2	.....	SSE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.99	761.7	69	20.6	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.87	758.7	29.94	760.5	68.5	20.3	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.85	758.2	29.97	761.2	66	18.9	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.78	756.4	29.94	760.5	64	17.8	.....	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.98	761.5	53.4	11.9	.....	SE	19	8.5	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	29.58	751.3	29.62	752.3	87.8	31.0	.....	S	.....	.....	1	.....	9	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.75	755.6	30.02	762.5	70.1	21.2	.....	S	.....	.....	1	.....	9	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	29.94	760.5	29.97	761.2	74.0	23.3	57	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	29.98	761.5	71.1	21.7	.....	SE	3	1.3	.....	.....	.....	.....	.....	.....	.....	.....	
Truro, Royal Institution	29.84	757.9	29.95	760.7	69.1	20.6	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Rev.C.H.Griffith,F.M.S.
Valencia, Observatory	29.80	756.9	29.82	757.4	72	22.2	.....	E	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	W. Newcombe.
					63.7	17.6	.....	SSE	34	15.2	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
SUB-SERIES.																			
Cape of Good Hope Obs'y	30.12	765.0	30.16	766.1	68.0	14.4	.....	NW	9.7	4.3	.....	10	10	.....	.....	0.360	9.14	Raining.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.98	761.5	61.2	16.2	.....	NE	.....	.....	1	.....	10g	.....	.....	0	0	Foggy	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.18	766.4	71.0	21.7	69	SSE	25.0	11.2	.....	0	4	.....	ESE	0.31	7.9	Squally.....	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	46.8	8.2	86	NNE	14	6.3	.....	.....	8	.....	.....	0.05	1.3	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00'. E. 28° 45'	SW	.....	.....	1	0	.....	.....	.....	Blue sky.....	Capt. W. J. L. Wharton.
Atmosphere, N. 49° 30' W. 7° 40'	SE	.....	.....	4	8	.....	6	WSW	D. clouds....	.....
Barque Commewyne, N. 49° 45', W. 22° 20'	WNW	.....	.....	6	10	.....	.....	.....	Showery.....	Capt. A. Buchan.
Gordon Castle, N. 40° 45', W. 68° 20'	NE	.....	.....	4	10	.....	2	WSW	Foggy	.....
German Brig "W. von Freeden" N. 39° 15', W. 55° 55'	W	.....	.....	3	0	.....	3	NW	Blue sky....	Capt. H. v. Freeden.
Theophane, N. 38° 35', W. 35° 15'	NW	.....	.....	2	3	.....	.....	.....	D. clouds....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.25	666.7	29.97	761.2	68.4	20.2	93	NE			2	8s;d	1ks			0.2	5.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	755.9	29.81	757.1	66.6	19.2	70	NW			4		4						
Fanöe	29.92	760.0	29.94	760.5	59.9	15.5	87	W			4		8						
Godthaab (Greenland)	29.69	754.2	29.74	755 3	40.6	4.8	96	SW			2		10						Foggy
Stykkisholm (Iceland)	29.81	757.2	29.85	758.3	55.0	12.8	77	W			2		8						
Thorshavn (Faröe)	29.95	760.6	29.98	761.5	51.4	10.8	92	SE			2		10						
Vestervig	29.78	756.5	29.89	759.3	61.1	16.7	88	WNW			4		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.45	748.1	30.00	762.1	77.0	25	68	NE			1		8kn		SE	0	0	Very cloudy	Colignon, Director.
Amiens, Normal School	29.91	759.7	30.02	762.4	74.8	23.8	64	WSW			1		5		W	0	0	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.76	756.0	30.02	762.4	71 8	22.1	60	S			1				SSW	0	0		Klein, Commandant.
Avignon, Normal School	29.80	756.9	29.88	758.9	80.6	32	35	N			1		0			0	0	Clear	Giraud, Director.
Ar-sur-Selne,	29.45	748.0	29.98	761.6	74.1	23.4	56	ESE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.74	755.5	30.00	762.0	73.2	22.9	70	S			1		10		SSE	0.049	1.25	Covered	Frere Eugene Marie.
Besançon, Normal Schoo'	29.12	739.7	29.98	761.5	73.4	23	63	NE			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.06	738.1	29.99	761.8	82.4	28	63	W			3		0			0.08	2.	Clear	Mariot, Director.
Bourges, Normal School	29.43	747.4	29.96	761.0	74.5	23.6	77	E			2	c		SE	SE	0.020	0.5		M. Gence, Director.
Brest, Naval Observatory	29.59	751.6	29.83	757.7	77.4	25.2	68	SE			1		1		SE	0.030	0.75		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.48	748.2	29.84	758.0	80.0	32.2	38	N			2		0			0	0	Clear	September, Dir.
Caen, Normal School	29.80	758.5	29.94	760.4	73.4	23	65	NE			1		5		E	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.42	747.2	29.95	760.8	77.5	25.5	47	S			1		5		W	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.73	755.1	30.04	762.9	76.3	24 6	42	NW			1		2					Slightlycl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.59	726.3	29.87	758.7	81.7	27.6	55	E			1		1		W	0	0		Alluard, Director.
Commercy, Normal School	29.17	740.8	30.00	761.9	73.4	23	50	E			1		0			0	0	Clear	Dr. Coulet, Director.
Commune de Gréasque*	28.85	732.8	29.99	761.8	88.3	31.3	41	S			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.31	744.6	30.04	763.1	78.8	26.0	66	ENE			1				NE	0	0		Ablard, Director
La Roche-sur-Yon, N. School	29.67	753.6	29.88	758.9	81.7	27.6	65	NE			3		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.67	753.5	29.96	761.0	77.4	25.2	64	ESE			3		2		ESE	0.020	0.50	Slightly cl'dy	Poirrier, Director.
Les-Le-Saulnier, N. School	29.09	738.9	29.98	761.4	75.0	23.9	68	NE			1		2k	NE	NE	0.055	1.4	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.78	756.4	29.88	759.0	77.0	25.0	68	E			5					0.016	0.40		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.35	745.5	29.94	760.5	77.4	25.2	55	NW			1		0			0.020	0.5	Clear	Ch. André, Director.
Mâcon, Normal School																			Guizin, Director.
Marseilles, Observatory	29.61	752.2	29.88	758.9	76.8	24.9	70	WNW			0–1		0			0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	28.95	735.2	29.96	760.9	68.4	20.2	53	N			1	2c		NW	NW			Clear	Barbier, Director
Mont-Louis																		Thunder-storm.	M. Cave.
Nice	29.89	759.3	29.93	760.2	80.2	26.8	66	E			2		2	E	E	0	0	Slightly cl'dy	M. Boissiéré, Director.
Nismes, Normal School	29.72	754.8	29.91	759.6	95.4	35.2	37	E			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.72	754.9	77.2	25.1	62	SE			1		7		E	0	0		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.68	576.1			68.9	20.5		S			1		10		S	0	0	Threatening	Gen'l de Nansouty.
Perpignan	29.81	757.1	29.91	759.7	80.2	26.8	49	SE	11.2	5.0			0			0	0	Smoky	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.26	641.7			59.4	15.2	56	ESE			2		2			0.091	2.3		Alluard, Director.
Rochefort, Naval Obs'y	29.82	757.6	29.85	758.3	85.6	29.8	50	E			2		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.90	759.5	29.98	761.6	71.6	22.0	78	SSE			1		10		S	0.130	3.3	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.8	29.91	759.6	75.6	24.2	67	SE			3		1	SE	SE	0.020	0.50	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.83	757.6	30.00	761.9	75.4	24.1	65	NE			1		7		E	0	0		E. Renou, Director.
Tarbes, Normal School	28.78	731.0	29.82	757.3	77.0	25	71	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.18	741.2	29.90	759.5	87.8	31.0	39	SSE			1		1			0	0		M. Julier Mercadier.
Tours	29.73	755.2	29.93	760.2	77.4	25.2	65	E			3		0			0.004	0.1	Clear	Cousin-Marquet.
Versailles, Observatory	29.53	750.1	30.02	762.6	74.8	23.8	60	NE			1					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.33	745.0	30.01	762.3	77.0	25	72	N			1		2		S	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	78.8	26										0.47	12.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.66	753.3	29.69	754.0	83.3	28.5	89	SE	7.8	3.5			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,556.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft. Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.18	741.1	30.02	762.5	68.9	20.5	64	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.80	757.0	29.97	761.3	63.3	17.4	74	W	.....	.....	3	.....	10	.....	.....	0.063	1.6	Raining	Prof. Dr. Arndt.
Breslau	29.43	747.4	29.95	760.8	59.9	15.5	72	WNW	.....	.....	3	.....	10	.....	.....	0.030	0.74	.....	Royal University Ob'y.
Carlsruhe	29.59	751.6	30.00	762.1	70.2	21.2	61	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Albert Sena.
Cassel	29.46	748.3	30.07	763.8	64.0	17.8	59	N	.....	.....	1	.....	2	NW	.....	0.029	0.72	.....	Dr. H. Möhl.
Crefeld	29.89	759.3	30.06	763.4	66.9	19.4	55	N	.....	.....	2	.....	4	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	30.08	763.9	59.7	15.4	71	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.68	753.8	30.04	762.9	70.7	21.5	.....	WSW	.....	.....	1	.....	3	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	29.67	753.7	29.91	759.7	64.4	18.0	77	WNW	.....	.....	4	.....	10cs	WNW	.....	0.004	0.1	Sprinkling	Dr. Assmann.
Friedrichshafen	28.59	726.3	30.00	761.9	65.7	18.7	79	WSW	.....	.....	3	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	29.95	760.6	30.02	762.4	59.2	15.1	77	NW	.....	.....	5	.....	10	.....	.....	0.024	0.6	Cloudy	Captain F. Hegemann.
Kiel	29.94	760.4	29.95	760.8	60.3	15.7	79	WNW	.....	.....	3	.....	10	.....	.....	0.140	3.52	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.42	747.2	29.50	749.3	59.0	15.0	54	NW	.....	.....	5	.....	8	.....	.....	0.689	17.5	.....	Prof. E. Luther.
Köslin	.....	.....	29.74	755.4	62.6	17.0	.....	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.64	752.8	30.06	763.4	60.1	15.6	64	WNW	.....	.....	3	.....	9	W	.....	0.122	3.1	.....	Prof. Bruhns, Privy Counselor.
Memel	29.45	748.0	29.50	749.2	61.3	16.3	66	NNE	.....	.....	5	.....	3s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.23	717.1	30.10	764.5	65.7	18.7	47	N	.....	.....	2	.....	1	.....	.....	0.004	0.1	.....	Dr. C. Lang.
Neufahrwasser	29.61	752.2	29.63	752.6	61.9	16.6	85	NW	.....	.....	5	.....	10	.....	.....	0.378	9.6	.....	A. Lothes.
Posen	29.53	750.1	29.82	757.3	60.6	15.9	96	W	.....	.....	6	.....	10	.....	.....	0.008	0.2	.....	Dr. Magener.
Strassburg (in Alsace)	29.50	749.3	30.04	762.9	70.0	21.1	54	NE	.....	.....	1	.....	1	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.08	738.5	29.96	761.6	70.3	21.3	41	N	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.1	30.02	762.5	65.1	18.4	50	WSW	1.1	0.5	.....	.....	1k	.....	W	0	0	.....	T. Hopfner.
Wustrow	29.89	759.1	29.91	759.7	59.5	15.3	88	WNW	.....	.....	5	.....	10s	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:6, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.36	745.8	29.73	755.2	93.4	34.1	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.5	29.44	747.8	82.8	28.2	69	WNW	14.0	6.3	.....	.....	1	.....	.....	0	0	D. clouds	
Deesa	29.09	738.9	29.56	750.7	81.8	27.7	77	SW	19.3	8.6	.....	.....	6	E	SW	0.04	1.0	D. clouds	
Bombay	29.64	752.9	29.68	753.9	79.9	26.6	92	WSW	23.0	10.3	.....	.....	10	.....	SW	0.19	4.8	Overcast	
Poona	27.84	707.2	29.71	754.6	72.5	22.5	93	WSW	14.0	6.3	.....	.....	10	W	W	0.41	10.4	Drizzling	
Lahore	28.73	729.8	29.46	748.2	85.0	29.4	79	E	5.3	2.4	.....	.....	8	.....	.....	0.07	1.8	Overcast	
Belgaum	27.21	691.0	29.76	755.9	69.3	20.7	95	W	22.0	9.8	.....	.....	10	W	W	0.70	17.8	Drizzling	
Roorkee	28.62	726.8	29.50	749.4	79.8	26.6	93	Calm	0.0	0.4	.....	.....	10	.....	.....	0.21	5.3	Showery	
Agra	28.95	735.2	29.48	748.9	82.7	28.2	91	Calm	.....	.....	.....	.....	5	.....	E	0	0	.....	
Nagpur	28.53	724.6	29.57	751.1	76.3	24.6	91	WSW	5.4	2.4	.....	.....	10	.....	.....	0.21	5.3	Overcast	
Lucknow	29.01	736.8	29.38	746.1	86.2	30.1	76	NNE	2.0	0.9	.....	.....	.....	WNW	.....	0	0	D. clouds	
Allahabad	29.12	739.7	29.43	747.5	81.1	27.3	91	NNE	4.2	1.9	.....	.....	10	.....	E	0.46	11.7	Overcast	
Patna	29.26	743.1	29.44	747.7	83.5	28.6	84	E	3.9	1.7	.....	.....	10	E	E	0.37	9.4	Overcast	
Hazaribagh	27.43	696.7	29.42	747.2	76.6	24.8	87	S	9.7	4.3	.....	.....	10	.....	S	0.93	23.6	Raining	
Cuttack	29.45	748.0	29.53	750.0	83.6	28.7	75	SSW	5.0	2.2	.....	.....	7	.....	.....	0.56	14.2	D. clouds	
Calcutta (Alipore)	29.52	749.7	29.54	750.2	82.7	28.2	81	S	6.0	2.7	.....	.....	6	S	ESE	0	0	D. clouds	
Goalpara	29.22	742.1	29.60	751.9	78.8	26.0	94	Calm	3.3	1.5	.....	.....	7	.....	.....	0.68	17.3	Raining	
Chittagong	29.59	751.7	29.68	753.9	80.2	26.8	88	E	8.9	4.0	.....	.....	10	.....	.....	0	0	Misty	
Sibsagar	29.31	744.5	29.65	753.0	78.2	25.7	94	SW	1.9	0.8	.....	.....	10	W	W	0.08	2.0	Overcast	
Jubbulpore	28.14	714.6	29.50	749.3	73.5	23.2	95	NNW	8.1	3.6	.....	.....	10	.....	NW	1.63	41.4	Drizzling	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	751.7	29.99	761.7	75.0	23.9	41	NE	1.3	0.6	.....	.....	0	.....	.....	0.315	8.0	.....	Prof. Giovanni Clodig.
Milan	29.45	748.0	29.95	760.6	81.0	27.2	54	ESE	.....	.....	6	.....	5	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.89	759.1	29.99	761.8	77.5	25.3	29	ESE	9.4	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.9	29.92	759.9	81.7	27.6	46	E	4.9	2.2	.....	.....	5	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.75	755.6	29.93	760.3	78.8	26.0	66	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.07	713.0	29.90	759.5	79.3	26.3	42	N	.....	.....	4	.....	4	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.91	759.8	29.96	761.0	77.4	25.2	51	NE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.65	753.0	29.89	759.2	86.9	30.5	43	N	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	758.1	29.93	760.1	77.0	25.0	69	NW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.71	754.7	29.88	759.0	86.9	30.5	55	SSW	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.63	752.5	29.87	758.7	83.5	28.6	30	ENE	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.00	736.5	29.84	757.8	89.6	32.0	61	NW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.72	754.8	29.90	759.5	90.7	32.6	25	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Facinotti.
Palermo	29.68	753.9	29.93	760.1	81.0	27.2	63	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.79	756.6	29.86	758.5	86.9	30.5	59	ESE	6.3	2.8	.....	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.0	29.93	760.1	82.4	28.0	68	WSW	2.5	1.1	.....	.....	3	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.77	756.1	29.79	756.6	79.1	26.2	89	SW	1.1	0.5	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.67	752.6	29.82	757.4	79.8	26.6	86	SSW	4.8	2.2	.....	.....	8s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.68	753.9	29.74	755.4	75.3	24.1	83	ENE	4.2	1.9	.....	.....	10s;n	.....	.....	.....	.....	Light rain	The Staff.
Wakayama	29.72	754.9	29.77	756.1	79.0	26.1	85	W	0.6	0.3	.....	.....	1s	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	1	.....	10	.....	Calm	0.14	3.6	Covered	P. Ceballos.
Guadalajara	26.01	635.2	30.01	762.3	57.6	14.2	79	W	.....	.....	1	1c	8n	SE	SE	0.84	21.2	Threatening	Prof. L. Perez.
Leon	24.40	619.8	30.04	763.0	62.1	16.7	89	SE	.....	.....	2	9ck	0	NE	.....	0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	30.02	762.4	55.9	13.3	84	Calm	0	0	.....	.....	10n	.....	.....	1.53	38.8	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.3	16.3	94	SW	.....	.....	1	.....	10	.....	SE	Inap.	Inap.	Rainy	M. V. de Leon, M. E.
Tlacotalpam	29.91	759.8	29.53	760.1	77.9	25.5	97	SE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.17	613.9	30.06	763.5	63.0	17.2	82	SE	.....	.....	2	3	0	SE	.....	0.41	10.5	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.66	575.0	30.11	764.8	57.2	14.0	94	W	.....	.....	2	9kn	0	WSW	.....	0.43	11.0	Raining	A. Nuñez.
Puebla (Catholic Institute)	23.40	594.4	30.20	767.0	52.7	11.5	82	SE	0.2	0.1	.....	7c	.....	NE	.....	0.004	0.1	Cloudy	Prof. P. Spina, R. Banda, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mazatlan	29.60	751.8	29.69	759.1	74.5	23.6	99	SE	.....	.....	0	.....	9n	.....	SE	3.69	93.8	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.68 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.07	763.8	30.07	763.8	71.1	21.7	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.02	762.4	30.07	763.8	60.8	16.0	.....	NW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.05	763.2	30.05	763.2	69.9	15.4	.....	WNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.09	763.5	30.06	763.5	73.4	23.0	68	ESE	.....	.....	0	.....	.....	.....	.....	0	0	.....	H. v. d. Brink.
Utrecht	30.04	763.1	30.09	764.3	64.9	18.3	60	NW	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected … Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall … Millimeters.	Weather.	OBSERVER.
Bergen	29.84	758.0	29.90	759.4	64.0	17.8	74	W	6.5	2.9			1			0	0		
Brōno	29.82	757.5	29.86	758.5	62.6	17.0	80	SSW	18	8			5			0	0	Foggy	
Christiania	29.67	753.7	29.82	757.3	60 8	21.0	62	WNW	0	0			4			0.008	0.2		
Tromsō	29.80	756.8	29.81	757.9	52.2	11.2	89	NE	11	5			8			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasicnally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Temp. F	Temp. C	Rel. Hum. %	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Angra (Azores)	29.86	758.5	30.05	763.3	71.2	21.8	69	NNW	10.5	4.7			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.80	731.4	29.75	755.7	92.1	33.4	19	SE	10.5	4.7			10			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.84	757.9	29.93	760.1	76.3	24 6	71	SW	9.8	4.4			9			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.48	748.7	29.84	757.8	66.2	19.0	75	SW	13.7	6.1			10			0	0		The Staff.
Ponta Delgada (Azores)	29.97	761.2	30.06	763.4	73.1	23.2	62	N	15.4	6.9			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Temp. F	Temp. C	Rel. Hum. %	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.																			J.C. M. Cabrate, 1st Lt
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. deMattos. Mossamedes, Lower Guinea			30.02	762.4	66.2	19.0		NW			3		3		NW	*1	NW	D. clouds	H. de C. C. e Athayde.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island			29.98	761.6	80.1	26.7		NE			4		0			2	NE	Blue sky	A. A. A. Loureiro.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, N. 3° 32′, W. 7° 55′			30.01	762.2	75.2	24.0		SSW			4		8		SSW	4	SSW	D. clouds, 2 hr's rain-fall.]	H. Mocudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.90	759.4	84.9	29.4		SW			3		0			1	SW	Blue sky	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Temp. F	Temp. C	Rel. Hum. %	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Warsaw	29.24	742.6	29.65	753.1	60.4	15.8	79	W	27	12			10ks						Astronomical Obs.
Wilna	28.98	736.0	29.38	746.3	57.4	14.1	88	SSE	11	5			10					Heavy clouds	Astronomical Obs.
Dorpat	29.32	744.7	29.55	750.6	64.8	18.2	64	WSW	4	2			1k						Prof. Dr. Weihrauch.
St. Petersburg	29.55	750.6	29.57	751.0	65.8	18.8	60	E	11	5			10n						Central Physical Obs.
Kieff	29.06	738.0	29.67	753.7	63.3	17.4	68	NW	4	2			10cks;	cs;s].					Physical Cabinet.
Nikolaiev	29.61	752.0	29.68	753.8	65.7	18.7	95	S	22	10			10n						Kurdakof.
Kêrtch	29.67	753.7	29.69	754.2	79.7	26.5	79	S	2	1			6						Lagorio.
Moscow	29.14	740.2	29.68	753.8	62.1	16.7	93	S	4	2			10s					Raining	Meteorological Obs.
Lugan	29.46	748.3	29.66	753.3	79.7	26.5	47	NNE	13	6			6						Meteorological Obs.
Archangel	29.82	757.3	29.84	757.8	77.0	25.0	41	ESE	4	2			4cs						Capt. Sseliwerstow.
Tiflis	28.43	722.2	29.75	755.7	90.7	32.6	27	SE	4	2			0						Physical Observatory.
Astrakhan	29.94	760.5	29.86	758.4	83.8	28.8	33	SE	11	5			4cs;s					Light clouds	Capt. Wisganow.
Krotkowo*	29.39	746.4	29.84	757.9	77.7	25.4	50	N	2	1			8k						Cand. Fatjanow.
Kasan	29.54	750.4	29.80	756.8	78.1	25.6	47	W	2	1			7k						Physical Cabinet.
Ekaterinburg	28.84	732.6	29.76	756.0	70.2	21.2	32	NW	13	6			0						Meteorological Obs.
Nukuss	29.46	748.3	29.68	753.9	82.6	28.1	26	NNE	13	6			1ks						
Tashkend	28.25	717.8	29.73	755.2	82.0	27.8	58	Calm	0	0			0						Teich, A. M.
Barnaul	29.08	738.6	29.57	751.0	53.1	11.7	80	SW	7	3			7						Meteorological Obs.
Yeniseisk	29.50	749.4	29.79	756.6	58.8	14.9	85	SW	4	2			10					Raining	Marks.
Irkutsk																			
Peking (China)	29.40	746.7	29.54	750.3	74.8	23 8	93	Calm	0	0			5k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.61	752.1	29.71	754.6	69.1	20.6	98	Calm	0	0			10n					Light fog	
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Bar. corr. Inches	Bar. corr. mm	Bar. red. Inches	Bar. red. mm	Temp. F	Temp. C	Rel. Hum. %	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Barcelona, Met. Obs'y	29.79	756.6	29.89	759.2	83.3	28.5	65	SE	2.8	1.25		0	0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.71	754.7	29.76	756.0	102.4	39.1	25	S	2.8	1.26		0	0			0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.99	685.5			91.8	33.2	35	SW	4.9	2.20		0	2			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.70	703.5	29.72	754.8	99.9	37.7	22	SE	8.9	4.00		1	1	W		Inap.	Inap.	Light clouds	The Staff.
Murcia, Met. Obs'y	29.74	755.3	29.88	758.9	95.0	35.0	36	SE	2.9	1.28		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.83	732.3	29.68	753.9	77.7	25.4	65	SW	1.3	0.6		6	3			0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.92	760.1	29.99	761.7	82.3	27.9	79	E	1.8	0.8		8c	0	S		Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.89	759.1	29.94	760.4	81.0	27.2	84	NE	4.5	2.0			2s		E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.73	755.0	29.82	757.4	92.8	33.5	28	SSE	17.8	8.0		0	9		SSE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.87	758.8	29.97	761.1	82.4	28.0	78	E	6.6	2.97		4ks	3k	E	E	0.236	6.00	D. clouds	Leonardo de Tejoda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.77	756.2	29.81	757.2	70.2	21.2	.....	Calm	.....	.....	0	.....	4	.....	.....	0.079	2.0	.....	
Umea	29.75	755.7	29.80	757.0	68.4	20.2	71	NE	.....	.....	2	.....	9	.....	.....	0.055	1.4	.....	
Hernosand	29.72	754.8	29.77	756.1	65.5	18.6	98	ENE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.52	749.9	29.70	754.4	69.1	20.6	53	NNE	.....	.....	4	.....	4	.....	.....	0	0	.....	
Wisby	29.52	749.8	29.58	751.3	67.9	14.4	94	E	.....	.....	6	.....	7	.....	.....	0.937	23.8	.....	
Sub-Series.																			
Upsala	29.63	752.7	29.72	754.9	68.4	20.2	62	N	12.1	5.4	.....	.....	5	SSE	N	0.007	0.17	....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.3	29.98	761.4	69.1	20.6	66	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.41	721.7	30.00	762.0	69.1	20.6	63	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.5 mm.; Thermometer, —1.5 Cent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.72	755.0	91.4	33.0	38	SSW	4	2.0	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	30.00	761.9	84.6	29.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.5	91.2	32.9	55	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	W. R. Bigg.
Chatham, N. B	29 90	759.4	29.95	760.7	58	14.4	79	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Ball.
Charlottetown, P. E. Island	29.91	759.7	29.95	760.7	64	17.8	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.98	761.5	60.5	15.8	75	W	.....	.....	1	.....	9s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.74	755.4	29.90	759.4	60	15.6	69	W	.....	.....	2	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	W. H. Devis.
*Father Point, Quebec	29.88	758.9	29.90	759.4	53	11.7	93	SW	20	8.9	.....	8k	0	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.95	760.7	30.02	762.5	60.2	15.7	75	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.13	739.9	29.94	760.5	58	14.4	94	N	5	2.2	.....	Haze	Sm'e	.....	.....	0	0	Smoky	James Stewart.
Granton, Ontario	28.92	734.6	30.01	762.2	55	12.8	93	N	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.89	759.2	30.02	762.5	60	15.6	84	SE	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.02	762.5	59.7	15.4	83	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.98	761.5	63	17.2	73	SE	5	2.2	.....	5c	0	Calm	.....	0.02	0.5	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.91	759.7	29.95	760.7	69.9	21.1	76	W	4	1.8	.....	3c	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	J. R. Nason
*Montreal, Quebec	29.80	756.9	30.00	762.0	61	16.1	69	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.32	744.7	30.00	762.0	57	13.9	97	NE	5	2.2	.....	0	0	.....	.....	0.24	6.1	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.24	742 7	29.97	761.2	60.7	15.9	88	NE	.....	.....	3	.....	10n	.....	.....	0.12	3.0	Foggy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	29.99	761.7	61	16.1	94	NW	9	4.0	.....	0	0	.....	.....	0.15	3.8	Clear	H. Morgan.
Port Hastings, N. S	29.91	759.7	29.96	761.0	64.6	18.1	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.37	746.0	30.00	762.0	60	15.6	94	NW	12	5.4	.....	5ks	.....	NW	Inap.	Inap.	Hazy.	M. Payne.	
*Quebec, Quebec	29.69	754.1	30.00	762.0	55	12.8	90	NW	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.68	751.3	30.04	763.0	50	10.0	95	NW	4	1.8	.....	.....	Fog	.....	NW	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	60	15.6	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.85	758.2	30.01	762.2	62	16.7	72	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.00	762.0	61	16.1	86	NE	4	1.8	.....	8k	0	E	.....	0.34	8.6	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	C. J. MacGregor, M. A.
*Sydney, C. B	29.93	760.2	29.97	761.2	68	20.0	73	SW	7	3.1	.....	2c	2ks	W	W	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.62	752.3	29.99	761.7	58	14.4	89	NW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	Magnetic Observatory.
Windsor, N. S	29.97	761.2	29.99	761.7	67.0	19.4	76	W	1	0.4	.....	.....	4k	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.72	754.9	29.97	761.2	59.0	15.0	82	NW	.....	.....	.....	10c	10s	.....	.....	0.07	1.8	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.85	758.2	30.08	764.0	58	14.4	70	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.37	746.0	30.01	762.2	53	11.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.37	9.4	Foggy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	48	8.9	100	Calm	0	0	.....	.....	10n	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	28.96	735.6	30.08	764.0	65	18.3	78	N	4	1.8	.....	10c	Haze	Calm	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.09	764.3	30.10	764.5	66	18.9	79	NW	5	2.2	.....	2c	0	SW	.....	0	0	Clear	
Augusta, Georgia	29.97	761.2	30.16	766.1	69	20.6	75	NW	1	[illegible]	.....	5ck	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.09	764.3	30.13	765.3	66	18.9	59	N	2	0.9	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.07	763.8	30.09	764.3	71	21.7	66	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Bismarck, Dakota	28.19	716.0	30.05	763.3	55	12.8	87	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.61	726.7	29.90	759.4	67	19.4	95	NE	5	2.2	.....	.....	10s	.....	Calm	1.22	31.0	Cloudy	
Boise City, Idaho	27.12	688.8	30.08	764.0	67	19.4	46	SE	2	0.9	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.90	759.4	30.05	763.3	63	17.2	67	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.91	734.3	29.91	759.7	69	20.6	95	N	2	0.9	.....	.....	10s	.....	N	0.73	18.5	Cloudy	
Breckenridge, Minnesota	28.82	732.0	29.78	756.4	60	15.6	88	NW	8	3.6	.....	2c	0	Calm	.....	0.01	0.3	Clear	
Brownsville, Texas	29.87	758.7	29.92	760.0	75	23.9	90	E	4	1.8	.....	.....	10ks	.....	SE	0.60	15.2	Cloudy	
Buffalo, New York	29.28	743.7	29.96	761.0	66	18.9	79	W	5	2.2	.....	.....	10s	.....	W	0.11	2.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	72	22.2	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.75	755.6	30.04	763.0	58	14.4	70	S	6	2.7	.....	5ck	5ks	W	W	0	0	Cloudy	
Cairo, Illinois	29.75	755.6	30.13	765.3	69	20.6	85	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Campo, California	27.37	695.2	29.94	760.5	58	14.4	76	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.12	765.0	30.12	765.0	70	21.1	66	NE	15	6.7	.....	8c	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	66	18.9	74	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	69	20.6	65	NE	10	4.5	.....	8c	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.08	764.0	30.11	764.8	67	19.4	69	W	10	4.5	.....	5c	0	W	.....	0	0	Fair	
Castroville, Texas	29.26	743.2	29.95	760.7	72	22.2	85	E	4	1.8	.....	.....	10s	.....	E	0.82	20.8	Threatening	
Charleston, South Carolina	29.99	761.7	30.04	763.0	72	22.2	62	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.29	744.0	30.08	764.0	65	18.3	81	NW	1	0.4	.....	5ck	Haze	Calm	Calm	0	0	Hazy	
Chattanooga, Tennessee	29.34	745.2	30.13	765.3	62	16.7	88	Calm	0	0	.....	5ck	Haze	W	Calm	0	0	Dense haze.	
Cheyenne, Wyoming	24.16	613.6	30.10	764.5	56	13.3	46	W	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Chicago, Illinois	29.30	744.2	29.96	761.0	69	20.6	65	SW	5	2.2	.....	2ck	Haze	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.48	748.8	30.12	765.0	63	17.2	75	SE	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.33	745.0	30.03	762.7	67	19.4	64	S	8	3.6	.....	2k	0	W	.....	0	0	Clear	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.27	743.4	30.09	764.3	60	15.6	77	S	4	1.8	.....	Haze	2s;hz	Calm	Calm	0	0	Hazy	
Concho, Texas	28.19	716.0	29.84	757.9	62	16.7	88	N	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Corsicana, Texas	29.62	752.3	30.08	764.0	65	18.3	89	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Cloudy	
Davenport, Iowa	29.31	744.5	29.92	760.0	67	19.4	74	E	2	0.9	.....	5c	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.51	647.9	.....	.....	61	16.1	77	S	1	0.4	.....	.....	10n	.....	S	0.02	0.5	Light rain	
Decatur, Texas	28.96	735.6	30.10	764.5	70	21.1	85	SE	6	2.7	.....	2ck	0	Calm	.....	0	0	Fair	
Denison, Texas	29.31	744.5	30.09	764.3	66	18.9	84	S	2	0.9	.....	5k	2ks	SE	SE	0	0	Fair	
Denver, Colorado	24.87	631.7	30.09	764.3	57	13.9	52	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.99	736.3	29.82	757.4	70	21.1	70	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair	
Detroit, Michigan	29.35	745.5	29.99	761.7	65	18.3	78	W	2	0.9	.....	5ck	5s	W	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.45	697.2	29.67	753.6	62	16.7	77	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.25	742.4	29.90	759.4	66	18.9	69	SE	2	0.9	.....	1c	Haze	N	Calm	0	0	Hazy	
Duluth, Minnesota	29.15	740.4	29.79	756.7	65	18.3	89	W	1	0.4	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Eagle Pass, Texas	29.24	742.7	29.96	761.0	70	21.1	90	NE	6	2.7	.....	.....	10s	.....	NE	0.66	16.8	Cloudy	
Eastport, Maine	29.95	760.7	30.01	762.2	59	15.0	82	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	72	22.2	95	E	.....	.....	1	.....	10s	.....	E	1.70	43.2	Cloudy	
El Paso, Texas	26.35	669.3	.....	.....	55	12.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.30	744.2	29.99	761.7	68	20.0	69	SW	7	3.1	.....	5k	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.27	743.4	29.90	759.4	68	20.0	84	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Florence, Arizona	28.44	722.4	30.04	763.0	75	23.9	56	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.06	712.7	29.88	758.9	53	11.7	86	NW	4	1.8	.....	1c	Sm'e	Calm	Calm	0	0	Fair	
Fort Davis, Texas	25.30	642.6	30.26	768.6	57	13.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.54	750.3	30.06	763.5	69	20.6	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.31	642.9	30.11	764.8	63	17.2	52	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Hazy	
Fort Griffin, Texas	28.86	733.0	30.11	764.8	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.48	698.0	.....	.....	63	17.2	83	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.82	706.6	29.69	754.1	65	18.3	80	NE	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.56	733.0	29.95	760.7	62	16.7	88	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.20	716.3	.....	.....	54	12.2	79	NW	9	4.0	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort Verde, Arizona	.....	.....	.....	.....	80	26.7	37	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.16	715.3	29.67	753.6	68	20.0	84	E	1	0.4	.....	.....	10ks	.....	Calm	0.82	20.8	Cloudy	
Galveston, Texas	30.00	762.0	30.04	763.0	74	23.3	90	NE	12	5.4	.....	.....	10n	.....	NE	1.09	27.7	Light rain	
Graham, Texas	29.02	737.1	30.05	763.3	64	17.8	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.94	760.5	71	21.7	80	Calm	0	0	.....	2c	Fog	Calm	Calm	Inap.	Inap.	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.13	739.9	30.08	764.0	64	17.8	83	S	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.30	744.2	30.05	763.3	65	18.3	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.02	762.5	30.05	763.3	72	22.2	95	E	17	7.6	.....	.....	10n	.....	E	2.15	54.6	Light rain	
Jacksboro, Texas	28.97	735.8	30.08	764.0	65	18.9	69	SE	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.04	763.0	30.07	763.8	77	25.0	65	NE	4	1.8	.....	2cs	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.30	744.2	29.88	758.9	71	21.7	66	S	9	4.0	.....	3c;cs	0	NE;Calm	.....	0	0	Fair	
Key West, Florida	29.86	761.0	30.00	762.0	84	28.9	71	E	8	3.6	.....	2k	0	E	.....	0.09	2.3	Fair	
Kittyhawk, North Carolina	30.05	763.3	30.08	764.0	67	19.4	69	N	10	4.5	.....	5ck	0	SW	.....	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.15	765.8	58.5	14.7	85	SE	3	1.3	.....	2cs	Fog	W	.....	0	0	Foggy	
La Crosse, Wisconsin	29.16	740.7	29.86	758.4	68	20.0	74	S	1	0.4	.....	10k	0	Calm	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	54	12.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.62	752.3	29.95	760.7	72	22.2	100	E	7	3.1	.....	.....	10n	.....	E	5.88	149.4	Light rain	
Leavenworth, Kansas	29.11	739.4	29.91	759.7	71	21.7	62	S	2	0.9	.....	1cs	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.78	756.4	30.14	765.5	64	17.8	94	W	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.48	748.8	29.80	756.9	66.5	19.2	62	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.55	750.6	30.10	764.5	62	16.7	72	NE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.48	748.8	30.15	765.8	65	18.3	73	N	1	0.4	.....	2cs	Sm'e	SW	Calm	0	0	Smoky	
Madison, Wisconsin	28.95	735.3	29.89	759.2	67	19.4	79	SE	4	1.8	.....	5ck	0	W	.....	0.37	9.4	Fair	
Marquette, Michigan	29.19	741.4	29.86	758.4	66	18.9	74	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Mason, Texas	28.45	722.6	30.18	766.6	67	19.4	89	NE	4	1.8	.....	.....	10s	.....	E	0.09	2.3	Cloudy	
Memphis, Tennessee	29.78	756.4	30.12	765.0	65	18.3	78	NW	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.24	742.7	29.94	760.5	65	18.3	78	NE	2	0.9	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Mobile, Alabama	30.01	762.2	30.05	763.3	68.5	20.3	79	N	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Montgomery, Alabama	29.87	758.7	30.10	764.5	69	20.6	79	E	4	1.8	.....	5ck	5s	W	Calm	0	0	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.15	740.4	30.14	765.5	58	14.4	82	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Mt. Washington, N. H.....	23.90	607.0	30.26	768.6	38	3.3	80	NW	1	0.4	.....	2k	2ks	SE	E	0	0	Fair.....	
Nashville, Tennessee.....	29.61	752.1	30.14	765.5	68	17.2	78	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut.....	29.97	761.2	30.08	764.0	65	18.3	73	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
New London, Connecticut...	30.03	762.7	30.07	763.8	64	17.8	73	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana.....	29.98	761.5	30.04	763.0	77	25.0	61	NE	6	2.7	.....	5cs	5s	W	Calm	0	0	Fair.....	
Newport, Rhode Island.....	30.01	762.2	30.06	763.5	64	17.8	73	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York.....	29.92	760.0	30.10	764.5	65	18.3	62	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Norfolk, Virginia.....	30.08	764.0	30.14	765.5	67	19.4	74	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
North Platte, Nebraska	27.09	688.1	29.68	761.3	61	16.1	80	W	4	1.8	.....	8k	2s	W	W	0	0	Cloudy.....	
Olympia, Washington Ter..	30.07	763.8	30.11	764.8	50.0	10.0	93	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Omaha, Nebraska.....	28.72	729.5	29.75	755.6	72	22.2	58	SW	15	6.7	.....	2c	0	W	.....	0	0	Clear	
Oswego, New York.....	29.69	754.1	30.00	762.0	61	16.1	77	S	7	3.1	.....	.....	10s	.....	W	0.06	1.5	Cloudy.....	
Pembina, Dakota.....	29.06	738.1	29.86	758.4	67	19.4	94	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa.....	30.05	763.3	30.10	764.5	66	18.9	64	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona.....	28.73	729.7	30.45	773.4	70	24.4	45	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	18.09	459 5*	30.30	769.6	37	2.8	38	N	20	8.9	.....	2c	0	Calm	.....	0	0	Clear.....	
Pilot Point, Texas.....	29.13	739.9	29.90	759.4	85	29.4	79	SE	12	5.4	.....	2k	8s	S	SE	0	0	Clear.....	
Pioche, Nevada.....	.....	.....	.....	.....	66	18.9	32	S	5	2.2	.....	0	0	.....	.....	0	0	Clouay.....	
Pittsburg, Pennsylvania.....	29.29	744.0	30.09	764.3	62	16.7	61	SW	6	2.7	.....	5k	0	SW	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.36	745.7	30.00	762.0	61	16.1	82	Calm	0	0	.....	0	Haze	.....	.....	0	0	Fair.....	
Portland, Maine.....	30.00	762.0	30.04	763.0	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon.....	30.06	763.5	30.14	765.5	55.6	13.1	90	NW	1	0.4	.....	0	2ks	.....	NW	0	0	Clear.....	
Prescott, Arizona.....	24.86	631.4	30.22	767.6	66	18.9	45	W	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear.....	
Punta Rassa, Florida.....	29.99	761.7	30.01	762.2	79	26.1	82	E	5	2.2	.....	2cs	0	SW	.....	0	0	Clear.....	
Red Bluff, California.....	29.48	748.8	29.82	757.4	76	24.4	38	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.78	756.4	30.00	762.0	69	20.6	100	S	4	1.8	.....	.....	10n	.....	Calm	2.75	69.9	Light rain...	
Rochester, New York.....	29.38	746.2	29.98	761.5	64	17.8	78	SW	4	1.8	.....	2k	Sm'e	SW	.....	0	0	Clear	
Roseburg, Oregon.....	29.56	750.8	30.13	765.3	52	11.1	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Sacramento, California.....	29.74	755.4	29.82	757.4	66	18.9	59	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri.....	29.48	748.8	30.04	763.0	66	18.9	74	S	9	4.0	.....	0	2ks	.....	NW	0	0	Fair.....	
St. Marks, Florida.....	30.05	763.3	30.07	763.5	73	22.8	67	SE	9	4.0	.....	0	9s	.....	Calm	0	0	Cloudy	
St. Paul, Minnesota.....	28.97	735.8	29.75	755.6	68	20.0	79	SE	5	2.2	.....	8ck	0	W	.....	0.02	0.5	Fair.....	
Salt Lake City, Utah.....	25.67	652.0	30.00	762.0	69	20.6	23	SE	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
San Antonio, Texas.....	29.38	746.2	29.94	760.5	72	22.2	67	E	4	1.8	.....	.....	10s	.....	E	1.38	35.1	Cloudy.....	
San Diego, California.....	29.78	756.4	29.84	757.9	64	17.8	89	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair.....	
Sandusky, Ohio.....	29.40	746.7	30.05	763.3	66	18.9	64	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey....	30.06	763.5	30.09	764.3	71	21.7	66	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California..	29.84	757.7	29.90	759.4	55	12.8	87	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.46	595.9	30.00	762.0	54	12.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	30.02	762.5	30.12	765.0	71	21.7	75	N	2	0.9	.....	2ck	Haze	SE	Calm	0	0	Fair	
Shreveport, Louisiana.....	29.88	758.9	30.09	764.3	66	18.9	89	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.11	764.8	30.15	765.8	70	21.1	85	N	7	3.1	.....	5cc	0	SW	.....	0	0	Fair.	
Socorro, New Mexico.....	25.53	648.4	29.60	751.8	64	17.8	48	S	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Springfield, Ill.....	29.35	745.5	30.00	762.0	69	20.6	65	S	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Springfield, Massachusetts	29.96	761.0	30.09	764.3	60	15.6	77	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy.....	
Stockton, Texas.....	27.08	687.8	30.08	764.0	57	13.9	5	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.05	763.3	30.10	764.5	61	16.1	88	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Toledo, Ohio, ...	29.84	745.2	30.01	762.2	67	19.4	74	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.53	699.2	30.08	764.0	76	24.4	45	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Umatilla, Oregon.....	29.64	752.8	30.11	764.8	68.0	20.0	51	E	2	0.9	.....	5ck	0	W	.....	0	0	Fair.....	
Uvalde, Texas.....	29.12	739.6	29.92	760.0	70	21.1	90	SE	3	1.3	.....	.....	10s	.....	NE	0.80	20.3	Cloudy.....	
Vicksburg, Mississippi.....	29.55	758.2	30.11	764.8	66	18.9	84	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Virginia City, Montana.....	24.46	621.0	29.93	760.2	61	16.1	40	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.48	748.8	29.83	757.7	69.5	20.8	46	SE	3	1.3	.....	5k	0	Calm	.....	0	0	Fair.....	
Washington, D. C.....	30.02	762.5	30.14	765.5	62	16.7	77	W	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.	
Wickenburg, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina.....	30.04	763.0	30.12	765.0	69	20.6	70	NE	4	1.8	.....	5cs	Haze	Calm	Calm	0	0	Fair.....	
Winnemucca, Nevada.....	25.67	652.0	30.03	762.7	66	18.9	32	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	30.01	762.2	30.04	763.0	67	19.4	64	N	10	4.5	.....	2k	0	.....	.....	0	0	Clear.....	
Yankton, Dakota.....	28.56	725.4	29.79	756.7	70	21.1	61	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair.....	
Yuma, Arizona.....	29.68	753.9	29.84	757.9	79	26.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.93	760.2	29.98	761.5	84	28.9	75	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrack.
Kingston, Jamaica, W. I...	30.13	765.3	30.14	765.5	80	26.7	84	N	.....	.....	.....	5c	2ks	Calm	.....	0.45	11.4	Fine.....	James Gall.
Medellin, Colombia, S. A.*.	25.23	640.8	.....	.....	66.0	18.9	82	Calm	.....	.....	0	6cs;k	3ks	.....	.....	0.08	2.0	.....	Thomas Herran.
Navassa, W. I.....	29.86	758.4	29.94	760.5	85	29.4	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	83	E	.....	.....	2	3c	5k	E	.....	0	0	Fair.....	O. J. Hering.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.....	29.60	751.8	29.61	752.1	83	28.3	83	E	4	1.8	.....	2c	8ks	E	.....	Inap.	Inap.	Light rain...	G. O. Gellich.
York Factory, B. A.....	30.11	764.8	30.16	766.1	41.5	5.3	96	SE	9	4.0	.....	2c	2s	S	SE	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,169 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,208 (?) ft., or 1,586 (?) m., Fort Grima, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,806 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 1—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.35‡	770.9‡	.....	.....	77	25.0	77	NW	4	1.8	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.73‡	755.1‡	.....	.....	76.5	24.7	88	Calm	.....	.....	0	.....	3ks	.....	NE	0	0	.....	.....	Fair	
Adams. Mare I'd, Navy Yard, Cal.	29.94‡	760.5‡	.....	.....	65	18.3	94	SSW	.....	.....	2–3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alliance, Stockholm, Sweden	29.70‡	754.4‡	.....	.....	70	21.1	61	N	.....	.....	2	.....	3	.....	N	.....	.....	.....	.....	Cloudy?	
Ashuelot, Yokohama, Japan	29.75‡	755.6‡	.....	.....	78	25.6	86	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado, New York, N. Y.	30.01‡	762.2‡	.....	.....	67	19.4	55	WNW	7	3.1	.....	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Constellation, Newport, R. I.	30.04‡	763.0‡	.....	.....	64	17.8	65	N	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.05‡	763.3‡	.....	.....	64	17.8	78	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, N. 55° 48′, E. 6° 12′	29.96‡	761.0‡	.....	.....	58	14.4	88	NW	.....	.....	5–6	.....	10	.....	NW	.....	.....	Modat'e	NW	Cloudy	
Essex, S. 24° 41′ W. 42° 32′	29.86‡	758.4‡	.....	.....	65	18.3	89	WSW	.....	.....	5	.....	2	.....	WSW	.....	.....	Mod'ate	SW	Fair	
Franklin, Norfolk, Va.	30.13‡	765.3‡	.....	.....	66	18.9	79	NW	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Hartford Rio de Janeiro, Brazil	30.04‡	763.0‡	.....	.....	70	21.1	52	WSW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	61	16.1	??	SW	3.6	1.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Charlottetown, Prince Edward Island	29.96‡	761.0‡	.....	.....	66	18.9	74	NE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Michigan, Chicago, Ill.	29.95‡	760.7‡	.....	.....	66	18.9	79	S	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	Hazy	
Monocacy, Shanghai, China	29.68‡	753.9‡	.....	.....	85	29.4	97	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, Yokohama, Japan	29.73‡	755.1‡	.....	.....	80	26.7	82	SW	.....	.....	2	.....	k	.....	.....	Light	Light	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.10‡	764.6‡	.....	.....	72	22.2	76	NE	11	4.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.03‡	762.7‡	.....	.....	62	16.7	83	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.68‡	753.9‡	.....	.....	82	27.8	96	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	66	18.9	68	NW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.03‡	762.7‡	.....	.....	61	16.1	88	SE	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Portsmouth, N. H	30.05‡	763.3‡	.....	.....	58	14.4	82	NNW	.....	.....	2	.....	2	.....	NW	0	0	Smooth	.....	Clear	
Powhattan, N. 25° 04′, W 83° 30′	30.01‡	762.2‡	.....	.....	84	28.9	96	E	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Quinnebaug, Trieste, Austria	29.97‡	761.2‡	.....	.....	78	25.6	39	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Nagasaki, Japan	30.02‡	762.5‡	.....	.....	84	28.9	67	SW	.....	.....	1	.....	8?	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.72‡	754.9‡	.....	.....	80	26.7	67	SW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Clear?	
Rio Bravo, Brownsville, Texas	29.92‡	760.0‡	.....	.....	77	25.0	95	NNE	.....	.....	1	.....	10	.....	SSE	1.04	26.4	.....	.....	Cloudy	
Santee, Annapolis, Md	30.12‡	765.0‡	.....	.....	65	18.3	73	N	.....	.....	1	.....	8?	.....	E	0	0	.....	.....	Clear?	
Saratoga, New Bedford, Mass.	30.06‡	763.5‡	.....	.....	66	18.9	84	N	.....	.....	2	.....	2	.....	N	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.10‡	764.5‡	.....	.....	64	17.8	89	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gravesend, Eng.	30.02‡	762.5‡	.....	.....	67	19.4	60	SSE	.....	.....	1–2	.....	10	.....	S;E	0.01	0.3	Smooth	.....	Cloudy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.82‡	757.4‡	.....	.....	63	17.2	89	SW	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 27° 53′, W. 80° 11′	30.05‡	763.3‡	.....	.....	80	26.7	87	SE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.04‡	763.0‡	.....	.....	60	15.6	65	NW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 25° 36′, W. 79° 40′	30.06‡	763.5‡	.....	.....	84	28.9	79	E	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair	
Wyoming, Erekli, Black Sea	29.68‡	753.9‡	.....	.....	81	27.2	66	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	ENE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Panger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
Note.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 19° 10′, W. 105° 05′		29.92‡	760.0‡	80	26.7	91	ENE			3		8		E	0.15 in. or 3.8 mm	Mod'ate	S	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.84‡	757.9‡				W			1		0						Clear	R. C. Ghest, 1st Officer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 20° 14′, E. 122° 05′		29.81‡	757.2‡	83	28.3	96	SSW			5		Scs			0	Mod'ate	SSW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 14′, W. 62° 24′		30.06‡	763.5‡				SE			3		10		WSW		7	wsw	Raining	Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 31', W. 19° 07'..	.....	29.51‡	749.5‡	59	15.0	76	N	.....	.....	8	.....	9	.....	NW	Mod'ate	Fresh	NW	Cloudy.	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
S. S. Pennsylvania..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen
Schooner Charley Buck.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax",....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Schooner Harry and Fred.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner
Iron Cross, N. 39° 27', W. 12° 38'.	.....	29.74‡	55.4‡	68	20.0	90	S	.....	.....	3	.....	8	.....	.....	.....	3	NNW	Showery.....	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

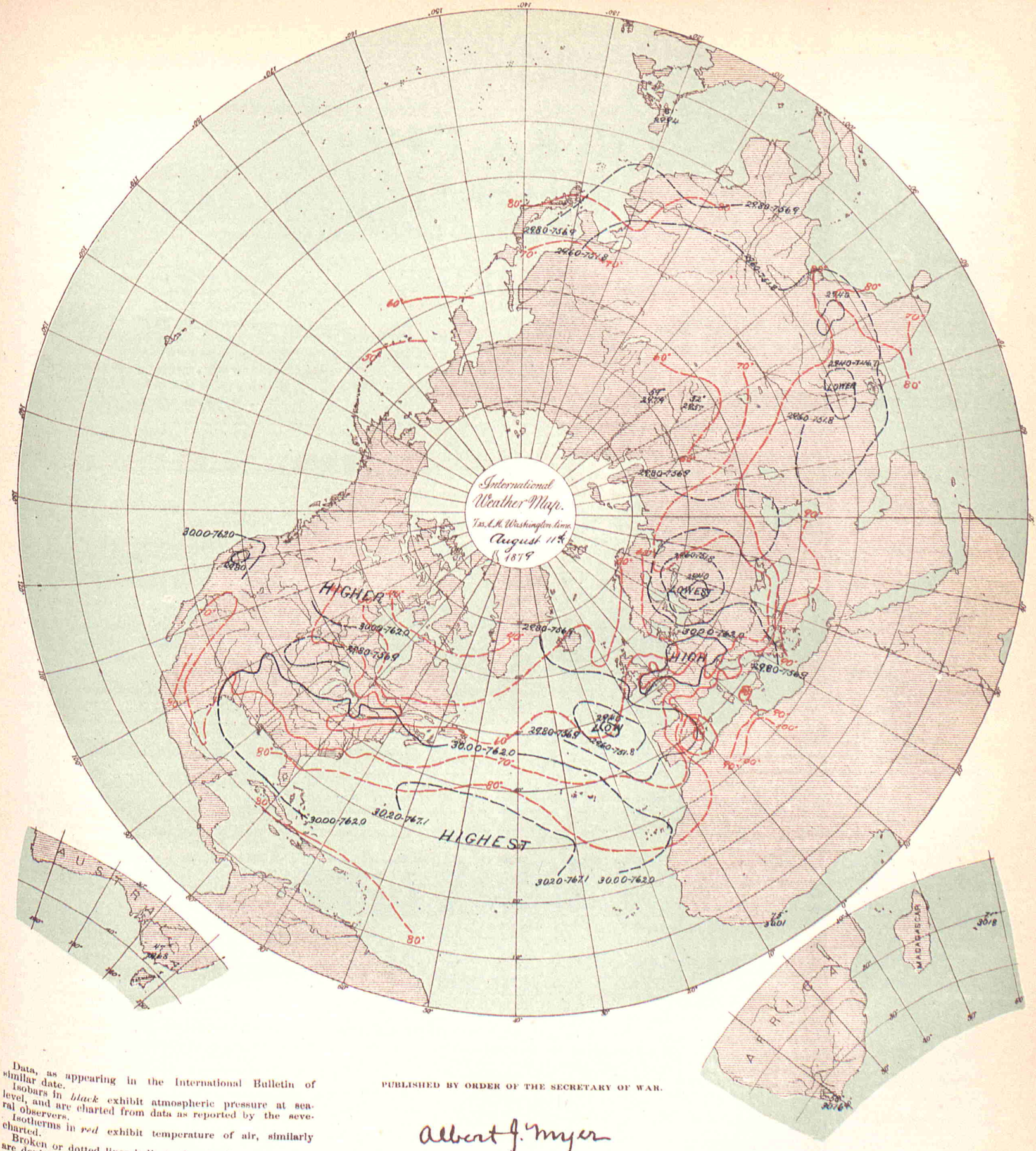
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 12, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.03	762.7	71.2	21.8	84	W			1		2			0	0	Fair	
Nemours			29.86	758.4	77.0	25.0	93	WNW			3		8			0	0	Very cloudy	Kesxuche.
Algiers			29.80	756.8	80.6	27.0	73	NE			3		0			0	0	Clear	Touriliere.
La Calle			29.84	757.9	88.7	31.5	63	NNW			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			29.94	760.5															Gau.
Saida			29.84	757.8	93.7	34.3	16	SW			3		8			0	0	Very cloudy	Herbin.
Tebessa			29.88	758.9	94.8	34.9	29	N			3		8			0	0	Very cloudy	Watrin.
Geriville					75.6	24.2	38	NW			2		0			0	0	Clear	Brugniaux.
Laghouat			29.87	758.6	100.0	37.8	28	SW			5		2			0	0	Fair	Bertrand.
Biskra			29.78	756.5	104.0	40.0	32	Calm			0		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.36	745.8	29.89	759.1	76.6	24.2	46	Calm			0		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.9	29.89	759.1	59.7	15.4	83	W	11.4	5.1			10			0.012	0.3		Prof. Dr. Karlinski, Dir.
Eperies	28.96	735.6	29.81	757.1	68.7	20.4	55	NW			2		8ks		SE	0	0		Julius Mikolik.
Gratz	28.69	728.8	30.30	769.5	70.2	21.2	68	SSW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.45	722.5	29.52	757.4	69.8	21.0	52	WNW			3		4			0	0		Prof. A. Gottschling.
Kremsmünster	28.59	726.1	29.88	758.9	69.4	20.8	73	NW			2		0			0	0		Prof. C. Wagner.
Lemberg	28.68	728.5	29.64	752.9	61.0	16.1	84	NW			4		10			0.362	9.2		Dr. T. Stanecki.
Pola	29.75	755.6	29.85	758.3	85.3	29.6	24	SE			1		2			0	0		I.R. Hydrographic Office.
Szathmar	29.41	747.1	29.86	758.5	69.8	21.0	47	NW			3		8			0	0		G. Sanctjohanser.
Szegedin	29.60	751.8	29.87	758.6	71.6	22.0	53	W			1		4			0	0		Karl Stancel.
Trieste	29.78	756.3	29.88	758.9	81.9	27.7	46	ENE			1		0			0	0	Very clear	P. Busin.
Vienna	29.22	742.3	29.97	761.1	71.2	21.8	47	NW			1		3			0	0		I. R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.84	757.9	29.94	760.5	62.2	16.8	.....	SSE	20	8.9	.....	.....	2	.....	.....	0	0	Misty.....	W. Boswell.
Ardrossan	29.82	757.4	29.83	757.7	67	19.4	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.54	750.3	29.75	755.6	65.9	18.8	.....	SSE	22	10.3	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	74.6	23.8	.....	SE	23	10.3	.....	.....	3	.....	.....	.....	.....	Misty.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.89	759.2	75.5	24.2	.....	SSE	18	8.0	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.43	747.5	29.82	757.4	72.0	22.2	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Blue sky.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.88	758.9	29.91	759.7	81	27.2	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast..	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.86	758.4	29.95	760.7	74.0	23.3	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. Todd.
Cardington	.....	.....	29.93	760.2	72.0	22.2	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder..	John McLaren.
Chatham, School M. E.	29.53	757.7	29.96	761.0	67.4	19.7	.....	E	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	J. Carmell, Sapper, R. E.
Donaghadee	29.78	756.4	29.82	757.4	60	15.6	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	29.92	760.0	29.95	760.7	65	18.3	.....	ENE	.....	.....	4	.....	0	.....	.....	.....	.....	Clear.....	J. Costello.
Falmouth, Observatory	29.55	750.6	29.77	756.1	64.3	17.9	.....	ESE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	The Staff.
Fort Napier (Natal)	27.74	704.6	30.04	763.0	68.5	20.3	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	85	29.4	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.62	752.3	66.5	19.2	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.82	757.4	29.87	758.7	79.2	26.2	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.64	752.8	29.85	758.2	70.0	21.1	.....	SSE	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean. [C.
Great Yarmouth	30.01	762.2	30.02	762.6	62	16.7	.....	ESE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29.94	760.5	71.8	22.1	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	29.59	751.6	29.80	756.9	73	22.8	.....	ESE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.81	757.2	29.93	760.2	67	19.4	.....	SE	.....	.....	6	.....	3ck	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.82	757.4	29.81	757.2	73	22.8	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.54	750.3	29.82	757.4	78.6	25.9	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	29.90	759.4	29.94	760.5	71.5	21.9	.....	E	20	8.9	.....	.....	0	.....	.....	.....	.....	Blue sky.....	The Met'g'l Office.
Leicester, Museum	29.69	754.1	29.93	760.2	73.6	23.1	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.74	755.4	29.81	757.2	85	29.4	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.01	762.2	84.0	28.9	.....	NE	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.77	756.1	29.95	760.7	75.2	24.0	.....	ESE	.....	.....	3	.....	6c;k	.....	SE	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.40	746.7	29.90	759.4	74.0	23.3	.....	SE	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.91	760.5	74	23.3	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	29.70	754.4	29.78	756.4	67.5	19.9	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.66	753.4	29.78	756.4	63	17.2	.....	SE	.....	.....	3	.....	.....	.....	.....	.....	.....	Foggy.....	Wm. Kennedy.
Saint Ann's Head	29.60	751.8	29.76	755.9	67	19.4	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.88	758.9	63.3	17.4	.....	SE	23	10.3	.....	.....	1	.....	.....	.....	.....	D. clouds.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	86.6	30.3	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't,W. H.Lyne.
Sheffield	29.68	753.9	29.95	760.7	73.5	23.1	.....	SW	.....	.....	4	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	74.6	23.7	69	SW	.....	.....	4	.....	7	.....	.....	0.020	0.51	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.91	759.7	72.7	22.6	.....	SE	20	8.9	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	70.0	21.1	.....	S	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.79	756.7	29.79	756.7	73	22.8	.....	E	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds.....	W.Newcombe.
Valencia, Observatory	29.62	752.3	29.65	753.1	62.2	16.8	.....	SSE	30	13.4	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.32	770.1	30.36	771.1	68.0	14.4	.....	NNW	8.8	3.9	.....	10	9	.....	.....	0	0	Cloudy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.88	758.9	77.2	25.1	.....	SE	.....	.....	2	.....	6k	SW	.....	0.07	1.8	Fine.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.9	72.0	22.2	67	SE	21.5	9.6	.....	.....	8	.....	ESE	0.01	0.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29.68	753.9	29.78	756.4	45.8	7.7	93	W	17	7.6	.....	.....	10	.....	.....	0.22	5.6	Showery.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00'. E. 28° 45'	.....	.....	29.81‡	757.2‡	76	24.4	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Misty.....	Capt. W. J. L. Wharton.
Atmosphere, N. 49° 35' W. 7° 00'	.....	.....	29.74	755.4	65	18.3	Var.	.....	.....	1	.....	4	.....	.....	5	WSW	D. clouds.....	.....
Barque Commewyne, N. 50° 00', W. 17° 45'	.....	.....	29.59‡	751.6‡	61.2	16.2	SW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. A. Buchan.
Gordon Castle, N. 40° 35', W. 72° 45'	.....	.....	30.17	766.3	78	25.6	WSW	.....	.....	2	.....	2	.....	WSW	1	WSW	Misty.....	.....
German Brig "W. von Freeden" N. 40° 20', W. 52° 45'	.....	.....	30.07	763.8	78	25.6	WSW	.....	.....	6	.....	6	.....	.....	4	sw&nw	Raining.....	Capt. H. v. Freeden.
Theophane, N. 29° 35', W. 35° 40'	.....	.....	30.20‡	767.1‡	80.2	26.8	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.32	668.5	30.04	763.0	67.6	19.8	88	SE	.....	.....	1	9cs;d	.....	.....	.....	0.5	13.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.82	757.5	29.87	758.7	67.8	19.9	73	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	29.97	761.3	29.99	761.8	63.0	17.2	76	NW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.69	754.2	29.74	755.8	48.2	6.2	90	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.32	744.8	29.37	745.9	51.8	11.0	55	SE	.....	.....	4	.....	8	.....	.....	.....	.....	Raining	.....
Thorshavn (Faröe)	29.80	756.9	29.84	757.8	51.8	11.0	99	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	.....
Vestervig	29.88	759.0	29.99	761.8	62.4	16.9	90	NW	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.1	29.89	759.1	76.6	24.8	51	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.91	759.8	81.0	27.2	49	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bouvallet, Director.
Arras, Engin'r School	29.69	754.1	29.94	760.4	73.8	23.2	49	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.76	755.9	29.84	757.9	91.4	33.0	40	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Par-sur-Seine	29.35	745.4	29.87	758.8	78.1	25.6	41	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	G. Saillard, Director.
Beauvais, Normal School	29.65	753.0	29.90	759.5	75.0	23.9	47	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Frere Eugene Marie.
Besançon, Normal School	29.03	737.3	29.88	758.9	76.6	24.8	69	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.4	30.08	764.0	76.6	24.8	65	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.30	744.1	29.82	757.5	78.1	25.6	69	E	.....	.....	5	.....	cks	.....	.....	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.14	747.5	29.68	753.9	85.3	29.6	62	SE	.....	.....	1	.....	1	.....	SE	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.11	746.9	29.79	756.6	88.2	31.2	20	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.74	755.3	29.81	757.1	80.2	26.8	38	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Bletrin, Director.
Chartres, Normal School	29.35	745.6	30.30	769.6	86.4	30.2	84	SE	.....	.....	5	.....	1	.....	W	0	0	Clear	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.6	29.93	760.3	77.0	25.0	54	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.50	723.8	29.80	756.8	88.5	31.4	36	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.11	739.3	29.92	759.9	76.3	24.6	45	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. Coulet, Director.
Commune de Gréasque*	28.78	730.9	29.92	759 9	88.0	31.1	37	W	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.09	738.9	29.8	757.3	80.2	26.8	69	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. School	29.58	751.3	29.78	756.5	87.3	30 7	68	NE	.....	.....	1	.....	5	.....	NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.55	750.5	29.84	757.9	80.6	27	45	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lens-Le-Saulnier, N.School	29.00	736.7	29.89	759.2	77.5	25.3	77	N	.....	.....	1	.....	2k	N	N	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.04	752.8	29.74	755.4	83.8	28.8	65	E	.....	.....	2	.....	.....	.....	E	0	0	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.25	742.9	29.83	757.7	82.4	28.0	47	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Guinin, Director.
Marseilles, Observatory	29.56	750.7	29.86	758 4	78.6	25.9	50	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.89	733.7	29.89	759.1	71.6	22	49	NNE	.....	.....	1	1c	.....	NNE	NNE	.....	.....	Clear	Barbier, Director.
Mont-Louis	24.92	632.9	30.28	767.9	76.6	24.8	36	S	15.0	6.7	.....	.....	10	.....	.....	0.180	3.3	Thunder-storm.	M. Chave.
Nice	29.84	757.5	29.87	758.7	84.2	29.0	70	SW	.....	.....	1	.....	2	W	SW	0	0	Slightly cl'dy	M. Boissieré, Director.
Nismes, Normal School	29.63	752.5	29.81	757.2	97.5	36.4	36	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.62	752.3	78.4	25.8	35	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.63	574.9	.....	.....	61.3	16.3	.....	S	.....	.....	2	.....	10	N	S	0.106	2.7	Threatening	Gen'l de Nansouty.
Perpignan	29.74	755.5	29.85	758.1	77.9	25.5	67	SE	9.4	4.2	.....	.....	0	.....	.....	0	0	Smoky	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.6	.....	.....	65.8	18.8	72	E	.....	.....	1	.....	2	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.71	754.6	29.74	755.4	90.0	32.2	47	SE	.....	.....	1	.....	0	.....	.....	0.08	2.	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.50	756.8	29.88	758.9	80.6	27.0	37	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.75	755.6	29.78	756.3	83.5	28.6	52	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.73	755.1	29.90	759.4	78.4	25.8	40	NE	.....	.....	2	2c	.....	.....	.....	0	0	Partly cl'dy	E. Renou, Director.
Tarbes, Normal School	28.70	729.0	29.73	755.2	77.0	25	68	WNW	.....	.....	1	.....	10	.....	.....	0.16	4.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.11	739.4	29.83	757.6	89.2	31.8	36	SSE	.....	.....	3	.....	1	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.61	752.1	29.81	757.1	83.5	28.6	55	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.42	747.2	29.91	759.8	78.4	25.8	31	NE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.21	741.9	29.88	759.0	83.3	28.5	63	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	8.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.73	755.1	29.67	753.7	84.4	29.1	78	SE	8.7	3.9	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 822 m., or 1,656 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,636.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.. Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	739.8	29.97	761.2	63.5	17.5	67	N			1		0			0	0		Prof. Dr. Hoh.
Berlin	29.81	757.2	29.98	761.5	67.8	19.9	63	NW			1		4			0.016	0.4		Prof. Dr. Arndt.
Breslau	29.41	747.1	29.94	760.5	64.9	18.3	63	WNW			4		9			0.030	0.74		Royal University Ob's'y.
Carlsruhe	29.50	749.4	29.92	759.9	73.0	22.8	56	NE			0		0			0	0		Albert Sena.
Cassel	29.46	748.2	30.07	763.7	63.3	17.4	63	N			1		8	NNE		0	0		Dr. H. Möhl.
Crefeld	29.84	758.0	30.00	762.1	68.0	20.0	56	N			3		0			0	0	Hazy...	Director Lose.
Emden			30.06	763.4	62.4	16.9	73	N			1		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.52	749.9	29.88	759.0	70.3	21.3		NE			2		1			0	0		Physical Society.
Freienwalde on the Oder	29.89	759.1	29.93	760.1	70.2	21.2	68	WNW			3		4ks	NW		0	0		Dr. Assmann.
Friedrichshafen	28.51	724.1	29.90	759.4	68.0	20.0	68	SW			3		0			0	0		M. Wilhelm.
Hamburg	29.95	760.7	30.02	762.5	61.5	16.4	82	NW			3		10m			0.012	0.3	Cloudy	Captain F. Hegemann.
Kiel	29.97	761.1	29.98	761.5	65.3	18.5	73	W			4		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.58	751.4	29.66	753.4	63.1	17.3	77	NW			3		6			0.004	0.1		Prof. E. Luther.
Köslin			29.81	757.1	65.1	18.4		NW			4		3			0.126	3.2		H. Müller.
Leipsic Observatory	29.61	752.2	30.03	762.8	60.8	16.0	65	WNW			2		10			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.58	751.4	29.63	752.6	66.2	19.0	75	NW			2		7s						Skalweit.
Munich (München)	28.16	715.2	30.02	762.5	68.2	20.1	41	NE			3		0			0	0		Dr. C. La g.
Neufahrwasser	29.73	755.1	29.74	755.5	64.8	18.2	75	NNW			4		10			0	0		A. Lothes.
Posen	29.54	750.3	29.82	757.4	66.2	19.0	72	W			8		9			0.094	2.4		Dr. Magener.
Strassburg (in Alsace)	29.40	746.8	29.93	760.2	72.9	22.7	55	NE			1		0			0	0		Imp. University Observatory.
Stuttgart	29.00	736.5	29.90	759.4	73.8	23.2	33	E			1		0			0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.4	29.94	760.5	67.6	19.8	47	E	2	1			1k			0	0	Hazy	T. Hopfner.
Wustrow	29.94	760.4	29.96	761.0	63.1	17.3	81	WNW			4		2s			0	0		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.42	747.2	29.79	756.6	88.7	31.5		NE			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.2	29.47	748.5	83.4	28.6	69	WSW	20.0	8.9			1			0	0	D. clouds	
Deesa	29.12	739.7	29.59	751.5	81.0	27.2	78	SSW	12.3	5.5			9		SW	0.18	4.6	D. clouds	
Bombay	29.65	753.1	29.69	754.0	80.2	26.8	90	WSW	28.0	12.5			10		WSW	0.02	0.5	Overcast	
Poona	27.85	707.4	29.72	754.8	73.8	23.2	89	WSW	7.0	3.1			10	W	W	0.32	8.1	Drizzling	
Lahore	28.77	730.7	29.50	749.2	86.0	30.0	72	E	3.9	1.7			5			0.27	6.9	Overcast	
Belgaum	27.22	691.5	29.79	756.6	68.8	20.4	96	W	17.0	7.6			10		W	1.08	27.4	Drizzling	
Roorkee	28.61	726.8	29.49	749.0	88.8	31.6	71	Calm	0.3	0.1			4			0	0	Thunder	
Agra	28.91	734.3	29.47	748.5	83.7	28.7	83	E					10		E	0	0		
Nagpur	28.55	725.1	29.58	751.4	80.3	26.8	81	Calm	6.4	2.9			9		NE	0.09	2.3	Gloomy	
Lucknow	29.07	738.5	29.44	747.9	82.3	27.9	96	Calm	4.1	1.8			10			0.04	1.0	Drizzling	
Allahabad	29.20	741.5	29.50	749.4	82.8	28.2	80	SW	6.5	2.9			5			0.08	2.0	D. clouds	
Patna	29.37	746.0	29.55	750.6	83.5	28.6	83	E	2.7	1.2			8	E	E	0.04	1.0	Thunder	
Hazaribagh	27.59	700.8	29.58	751.3	79.8	26.6	78	SSE	14.2	6.4			5			0	0		
Cuttack	29.57	751.1	29.65	753.1	84.2	29.0	77	SSW	2.0	0.9			7			1.71	43.4	D. clouds	
Calcutta (Alipore)	29.61	752.0	29.63	752.6	82.1	27.8	79	S	3.0	1.3			10	S	S	0	0	Overcast	
Goalpara	29.27	743.3	29.65	753.2	77.5	25.3	94	ESE	4.6	2.1			8			0.20	5.1	D. clouds	
Chittagong	29.64	752.9	29.73	755.1	79.9	26.6	87	SE	5.7	2.6			9			0	0	Thunder	
Sibsagar	29.30	744.3	29.64	752.8	83.2	28.4	84	WSW	4.0	1.8			7			0.22	5.6	D. clouds	
Jubbulpore	28.21	716.4	29.57	751.0	75.8	24.3	86	W	10.9	4.9			10		W	5.62	142.7	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.50	749.3	29.89	759.3	79.7	26.5	30	S	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.36	745.8	29.86	758.4	81.5	27.5	37	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.77	756.1	29.87	758.8	79.5	26.4	40	NE	3.1	1.4	.....	.....	4	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.0	29.84	758.0	82.0	27.8	42	NNE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.66	753.4	29.85	758.1	82.4	28.0	60	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	711.0	29.82	757.5	77.7	25.4	45	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.86	758.4	77.7	25.4	49	NE	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.56	750.9	29.81	757.1	89.6	32.0	37	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.76	755.8	29.84	757.9	84.0	28.9	57	W	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.65	753.2	29.82	757.5	85.3	29.6	56	SW	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.58	751.4	29.83	757.6	82.0	27.8	31	NNE	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.58	726.8	29.81	757.2	90.5	32.5	59	NW	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.65	753.1	29.84	757.8	86.2	30.1	45	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.63	752.5	29.87	758.7	81.1	27.3	61	E	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.76	756.0	29.84	757.8	87.1	30.6	55	S	7.4	3.3	.....	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.8	29.88	758.9	81.9	27.7	66	S	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.76	755.9	29.78	756.4	81.1	27.3	77	SW	6.2	2.8	.....	.....	2s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.65	753.1	29.84	757.9	79.7	26.5	86	SSW	6.6	2.9	.....	.....	1s	.....	.....	0.230	5.84	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.74	755.4	29.80	756.9	75.4	24.1	89	SSW	4.4	2.0	.....	.....	1s	.....	.....	0	0	Fair	The Staff.
Wakayama	29.73	755.1	29.78	756.4	78.2	25.7	88	SE	0.9	0.4	.....	.....	3s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.00	634.9	29.08	761.5	59.0	15.0	77	W	.....	.....	1	.....	9	.....	NE	0.06	1.4	Very cloudy	Prof. L. Pereа.
Leon	24.38	619.2	30.01	762.2	62.2	16.8	87	SE	.....	.....	2	0	9ck	.....	E	1.75	44.4	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.03	584.9	29.95	760.6	58.6	14.8	86	Calm	0	0	.....	.....	10kn	.....	.....	0.30	7.8	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.6	17.0	91	SW	.....	.....	1	.....	10n	.....	.....	0.44	11.2	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.7	29.88	759.0	78.8	26.0	93	S	.....	.....	2	3	7	SW	S	0.22	5.5	Threatening	Prof. M. M. Chazaro.
San Luis Potosi	24.17	613.9	30.08	764.1	61.0	16.1	55	SE	.....	.....	2	.....	10	.....	E	0.13	3.2	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel'.
Zacatecas	22.56	572.9	30.10	764.6	57.6	14.2	91	Calm	.....	.....	0	5c	0	Calm	.....	1.50	38.0	½ clouded	A. Nuñez.
Puebla (Catholic Institute)	23.38	593.9	30.18	766.5	58.1	14.5	88	SE	1.8	0.8	.....	.....	9ck	.....	SE	0.44	11.2	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.58	751.4	29.87	758.7	75.6	24.2	92	SE	.....	.....	1	6ck	2n	Calm	SE	0.08	2.0	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,553.5 m., or 5,096.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.01	762.3	30.01	762.3	68.7	20.4	.....	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.01	762.2	30.07	763.6	60.6	15.9	.....	NNW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.0	30.04	763.0	59.7	15.4	.....	ENE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.01	762.2	30.01	762.2	67.6	19.7	63	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.99	761.8	30.04	763.0	64.9	18.3	63	ENE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.93	760.3	29.99	761.7	62.6	17.0	82	NW	6.0	2.7	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.02	762.4	30.06	763.4	57.2	14.0	80	N	4	2	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.77	756.1	29.91	759.6	75.6	24.2	54	SW	2	1	.....	.....	2	.....	.....	0.004	0.1	.....	
Tromsö	30.04	762.9	30.08	764.0	63.4	11.9	73	NE	11	5	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.95	760.8	30.14	765.6	72.0	22.2	77	W	11.9	5.3	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.84	732.6	29.91	759.8	76.5	24.7	43	S	8.7	3.9	.....	.....	7	S	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.91	759.8	30.00	762.0	75.7	24.3	66	SW	3.8	1.7	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.49	749.1	29.85	758.1	70.6	21.1	77	SSW	6.3	2.8	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.08	763.9	30.16	766.1	75.9	24.4	60	SW	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—					
Bartholomew Dias	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.00	761.9	67.6	19.8	.....	NW	.....	.....	3	.....	1	.....	NW	1	NW	D. clouds.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.98	761.4	80.6	27.0	.....	ENE	.....	.....	3	.....	4	.....	ENE	1	.....	D. clouds.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, N. 2° 28', W. 4° 47'	.....	.....	30.01	762.3	77.0	25.0	.....	SSW	.....	.....	2	.....	4	.....	SSW	2	SSW	D. clouds.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.96	761.0	84.9	29.4	.....	SW	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky.....	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.28	743.8	29.69	754.2	63.3	17.4	78	NW	16	7	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.11	739.5	29.52	749.7	65.1	18.4	62	N	2	1	.....	.....	5	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.35	745.5	29.58	751.4	67.5	19.7	61	ENE	7	3	.....	.....	10k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.58	751.3	29.60	751.7	67.1	19.5	79	E	9	4	.....	.....	8kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.80	731.6	29.42	747.3	56.5	13.6	86	W	18	8	.....	.....	10ks;cn	.....	.....	.....	.....	Raining.....	Physical Cabinet.
Nikolaiev	29.65	753.0	29.72	754.8	72.3	22.4	50	SW	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.81	757.2	29.83	757.7	70.7	21.5	66	S	4	2	.....	.....	7	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.67	728.1	29.19	741.4	63.0	17.2	92	ESE	27	12	.....	.....	9ks	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Lugan	29.41	746.9	29.60	751.9	72.1	22.3	42	SSW	22	10	.....	.....	8	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.84	757.8	29.85	758.3	75.2	24.0	45	SE	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.33	719.5	29.64	752.9	89.2	31.8	30	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.79	756.7	29.71	754.6	86.9	30.5	45	SSW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.27	743.4	29.71	754.7	78.4	25.8	43	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.46	748.3	29.71	754.7	78.6	25.9	40	E	2	1	.....	.....	7ks	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.88	733.6	29.82	757.3	63.9	17.7	54	SE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.58	751.2	29.80	756.8	84.9	29.4	21	NNE	2	1	.....	.....	1s	.....	.....	.....	.....	.....	
Tashkend	28.24	717.2	29.70	754.4	84.9	29.4	65	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.32	744.7	29.80	757.0	63.1	17.3	46	SW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.41	746.9	29.69	754.1	62.7	11.5	88	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Raining.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.39	746.4	29.53	750.0	79.2	26.2	89	S	4	2	.....	.....	1k	.....	.....	.....	.....	Thunder.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.52	749.8	29.62	752.3	72.3	22.4	92	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.73	755.1	29.83	757.7	83.1	28.4	63	SE	3.9	1.75	.....	.....	0	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.74	755.5	29.80	756.9	81.9	27.7	65	NW	2.9	1.29	.....	2	7	SE	.....	0	0	Almost cov'd	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.96	684.9	.....	.....	82.4	28.0	36	SE	6.3	2.83	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.72	704.1	29.87	758.8	69.8	21.0	58	SE	17.9	8.00	.....	0	10	.....	.....	0.142	3.6	Covered.....	The Staff.
Murcia, Met. Obs'y	29.66	753.4	29.80	757.6	86.9	30.5	47	ESE	2.9	1.28	.....	5	5	E	.....	0.015	0.39	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.30	734.0	29.76	755.8	75.2	24.0	63	SW	4.3	1.9	.....	0	5	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.3	30.00	761.9	81.2	27.3	80	E	5.1	2.3	.....	0	1k	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.0	29.94	760.4	82.6	28.1	88	ENE	0	0	.....	4c	3kn	W	E	1.023	26.0	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.81	757.1	29.90	759.5	75.0	23.9	63	WSW	8.2	3.7	.....	2	8	N	N	0.010	0.3	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.1	30.02	762.4	83.5	28.6	79	SE	11.0	4.90	.....	2cs	2k	SE	SE	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.89	759.3	29.93	760.3	70.9	21.6	.....	N	.....	.....	4	.....	4	.....	.....	0	0	.....	
Umea	29.89	759.1	29.94	760.4	71.6	22.0	52	NE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Hernosand	29.89	759.1	29.94	760.4	69.4	20.8	70	ENE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Stockholm	29.43	747.4	29.60	751.9	68.1	14.5	100	NNE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	29.64	752.8	29.70	754.3	61.5	16.4	89	NNE	.....	.....	6	.....	7	.....	.....	0.067	1.7	.....	
Sub-Series.																			
Upsala	29.73	755.2	29.82	757.4	63.9	17.7	83	N	15.0	6.7	.....	.....	9	.....	NNE	.....	.....	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.50	724.0	29.87	758.8	73.2	22.9	57	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.33	719.6	29.90	759.5	74.1	23.4	53	E	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —3.8 mm.; Thermometer, +0.9 Cent.; Relative Humidity, +3 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.85	758.1	76.5	24.7	41	NNE	10	4.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.96	760.9	83.8	28.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751.6	29.70	754.4	90.0	32.2	59	SW	.....	.....	3	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.94	760.5	30.00	762.0	65	18.3	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	66	18.9	66	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.90	759.4	30.09	764.3	67.0	19.0	98	W	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	James Smith, M. A.
Dalhousie, N. B	29.82	757.4	29.98	761.5	66.5	19.2	66	W	.....	.....	2	0	1ks	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	29.99	761.7	56	13.3	81	W	25	11.2	.....	5cs	0	W	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.01	762.2	30.08	764.0	64.0	17.8	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.14	740.1	29.95	760.7	56	13.3	93	N	14	6.3	.....	.....	10n	.....	Calm	0.180	4.57	Cloudy	James Stewart.
Granton, Ontario	28.99	736.3	30.06	763.5	65	18.3	100	S	.....	.....	1	cs	0	S	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.94	760.5	30.07	763.8	66	18.9	65	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.13	765.3	62.9	17.2	91	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.80	756.9	30.13	765.3	68	20.0	89	S	5	2.2	.....	5ck	Sm'e	Calm	S	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.90	759.4	29.94	760.5	67.9	19.9	77	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.91	759.7	30.10	764.5	67	19.4	73	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.40	746.7	30.07	763.8	62	16.7	88	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.13	765.3	58.2	14.6	94	NE	.....	.....	1	4k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.09	764.3	62	16.7	94	Calm	0	0	.....	10ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.91	759.7	29.96	761.0	60.5	15.8	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.45	748.0	30.07	763.8	70	21.1	88	SW	5	2.2	.....	Haze	5n	.....	W	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.77	756.1	30.06	764.0	58	14.4	94	W	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.6	30.13	765.3	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	30.03	762.7	30.08	764.0	62	16.7	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.92	760.0	30.08	764.0	63	17.2	72	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.00	762.0	69	20.6	80	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.93	760.0	29.96	761.0	68	20.0	73	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.12	765.0	65	18.3	89	E	6	2.7	.....	5ck	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.08	763.5	66.5	19.2	81	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.71	754.6	29.95	760.7	61.0	16.1	71	SW	.....	.....	.....	5c	5b	.....	.....	0.01	0.3	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.95	760.7	30.17	766.3	63	17.2	86	S	1	0.4		0	Sm'e			0	0	Clear	
Alpena, Michigan	29.33	745.0	29.96	761.0	65	18.3	89	S	11	4.9		5c	0	W		0.06	1.5	Fair	
Atcha, Aleutian Is., Alaska					50	10.0	100	W	9	4.0			10n		W	0.57	14.5	Cloudy	
Atlanta, Georgia	29.01	736.8	30.13	765.3	65	18.3	73	E	5	2.2		10k	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	30.17	766.3	30.18	766.6	70	21.1	75	SW	5	2.2		2c	0	Calm		0	0	Clear	
Augusta, Georgia	30.01	762.2	30.20	767.1	69	20.6	75	NE	1	0.4		2cs	2s	SW	Calm	0	0	Fair	
Baltimore, Maryland	30.15	765.8	30.20	767.1	68	20.0	70	W	2	0.9		Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.15	765.8	30.17	766.3	72	22.2	71	W	8	3.6		0	Haze		Calm	0	0	Clear	
Bismarck, Dakota	28.25	717.5	30.10	764.5	54	12.2	87	NW	7	3.1			Fog		Calm	0	0	Foggy	
Boerne, Texas	28.59	726.2	29.87	758.7	67	19.4	89	NE	2	0.9			10ks		S	0	0	Cloudy	
Boise City, Idaho	27.08	687.8	30.04	763.0	67	19.4	60	NE	1	0.4		5k	0	SW		Inap.	Inap.	Fair	
Boston, Massachusetts	30.01	762.2	30.16	766.1	70	21.1	70	W	1	0.4		0	0			0	0	Clear	
Brackettville, Texas	28.89	733.8	29.89	759.2	71	21.7	95	E	1	0.4			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.94	735.1	29.92	760.0	55	12.8	87	W	7	3.1			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.84	757.9	29.88	758.9	76	24.4	95	E	1	0.4			10s		Calm	0.92	23.4	Cloudy	
Buffalo, New York	29.41	747.0	30.09	764.3	67	19.4	74	SW	4	1.8		8c	Haze	W	Calm	0	0	Fair	
Burkes, Arizona					71	21.7	49	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.85	758.2	30.13	765.3	64	17.8	73	S	1	0.4		0	0			0	0	Clear	
Cairo, Illinois	29.75	755.6	30.13	765.3	72	22.2	71	Calm	0	0		0	Haze			0	0	Clear	
Campo, California	27.32	693.9	29.89	759.2	53	11.7	67	E	2	0.9		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.17	766.3	30.18	766.6	74	23.3	68	NE	8	3.6		2ck	0	SW		0	0	Fair	
Cape Henry, Virginia	30.18	766.6	30.20	767.1	69	20.6	75	Calm	0	0		10cs	Haze	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.14	765.5	30.16	766.1	75	23.9	60	NE	17	7.6		5k	2ks	W	W	0	0	Cloudy	
Cape May, New Jersey	30.16	766.1	30.19	766.8	70	21.1	75	S	8	3.6		5c	Haze	W		0	0	Fair	
Castroville, Texas																			
Charleston, South Carolina	30.07	763.8	30.12	765.0	72	22.2	76	NE	12	5.4			10s		Calm	0	0	Cloudy	
Charlotte, North Carolina	29.34	745.2	30.13	765.3	71	21.7	65	SE	1	0.4		5c	Haze	Calm	Calm	0	0	Hazy	
Chattanooga, Tennessee	29.37	746.0	30.16	766.1	66	18.9	79	Calm	0	0		1cs;Hz	Haze	Calm	Calm	0	0	Dense haze	
Cheyenne, Wyoming	24.16	613.6	30.10	764.5	54	12.2	80	W	4	1.8		0	0			0.33	8.4	Clear	
Chicago, Illinois	29.26	743.2	29.93	760.2	68	20.0	79	S	10	4.5			10s		S	0.13	3.3	Cloudy	
Cincinnati, Ohio	29.49	749.0	30.13	765.3	66	18.9	79	SE	3	1.3		0	Fog		Calm	0	0	Clear	
Cleveland, Ohio	29.41	747.0	30.12	765.0	65	18.3	73	S	6	2.7		5cs	Fog	Calm	Calm	0	0	Fair	
Coleman City, Texas																			
Columbus, Ohio	29.30	744.2	30.12	765.0	62	16.7	77	S	2	0.9		0	0			0	0	Smoky	
Concho, Texas	28.12	714.2	29.74	755.4	68	20.0	79	S	4	1.8		0	8s		S	0	0	Fair	
Corsicana, Texas	29.57	751.1	30.03	762.7	66	18.9	84	Calm	0	0		1cs	0	Calm		0	0	Clear	
Davenport, Iowa	29.30	744.2	29.91	759.7	71	21.7	80	SW	5	2.2			10s		W	0.09	2.3	Cloudy	
Deadwood, Dakota	26.47	646.9			48	8.9	93	Calm	0	0		0	0			0.15	3.8	Clear	
Decatur, Texas	28.82	732.0	29.96	761.0	72	22.2	85	SE	7	3.1		0	0			0	0	Clear	
Denison, Texas	29.24	742.7	30.02	762.5	66	18.9	89	SW	2	0.9		0	0			0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	57	13.9	81	N	2	0.9		8ck	2s	NW	NW	0	0	Cloudy	
Des Moines, Iowa	29.03	737.3	29.88	758.9	67	19.4	84	Calm	0	0		5cs	Sm'e	NW	Calm	0.08	2.0	Smoky	
Detroit, Michigan	29.39	746.5	30.04	763.0	67	19.4	69	SW	8	3.6			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.42	696.5	29.62	752.3	64	17.8	78	E	2	0.9		5ck	5s	NW	W	0	0	Cloudy	
Dubuque, Iowa	29.21	741.9	29.87	758.7	70	21.1	80	S	2	0.9		8k	Haze	SE	Calm	0.01	0.3	Fair	
Duluth, Minnesota	29.14	740.1	29.79	756.7	63	17.2	94	NE	3	1.3			10s		NE	0.03	0.8	Cloudy	
Eagle Pass, Texas	29.24	742.7	29.96	761.0	70	21.1	95	NE	3	1.3			10s		E	0	0	Cloudy	
Eastport, Maine	30.03	762.7	30.09	764.3	66	18.9	69	W	3	1.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Edinburg, Texas					75	23.9	95	Calm			0		10s		Calm	1.50	38.1	Rainy	
El Paso, Texas	26.28	667.5			54	12.2	74	Calm	0	0		0	Fog			0	0	Foggy	
Erie, Pennsylvania	29.41	747.0	30.10	764.5	70	21.1	70	S	5	2.2		8c	Haze	W	Calm	0	0	Fair	
Escanaba, Michigan	29.19	741.4	29.81	757.2	67	19.4	79	S	10	4.5			10s		SW	0.10	2.5	Cloudy	
Florence, Arizona	28.34	719.8	29.94	760.5	79	26.1	33	E	4	1.8		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.07	713.0	29.91		47	8.3	100	E	6	2.7			Fog		Calm	0	0	Foggy	
Fort Davis, Texas	25.27	641.8	30.23	759.7	57	13.9	87	SW	3	1.3		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.51	749.5	30.03	767.8	70	21.1	75	E	4	1.8		5cs	0	E		0	0	Fair	
Fort Grant, Arizona	25.26	641.6	30.06	762.7	66	18.9	32	NE	8	3.6		0	0			0	0	Clear	
Fort Griffin, Texas	28.77	730.7	30.01	763.5	64	17.8	89	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.47	697.7		762.2	54	12.2	56	Calm	0	0			Fog		Calm	0	0	Foggy	
Fort McKavett, Texas	27.79	705.8	29.66		68	20.0	84	E	4	1.8			10s		Calm	0	0	Cloudy	
Fort St. Michael, Alaska				753.4															
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.90		63	17.2	89	Calm	0	0		0	Haze		Calm	0	0	Hazy	
Fort Stevenson, Dakota	28.24	717.3		759.4	54	12.2	87	W	3	1.3			10s		Calm	0	0	Cloudy	
Fort Verde, Arizona					68	20.0	42	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.13	714.5	29.62		72	22.2	67	E	1	0.4		2cs	0	Calm		0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	752.3	76	24.4	91	E	16	7.2			10n		E	0.39	9.9	Light rain	
Graham, Texas	28.94	735.1	29.87	761.7	65	18.3	89	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.30	744.2	29.92	761.2	70	21.1	85	S	16	7.2		0	8s		S	0.11	2.8	Fair	
Helena, Montana				760.0															
Henrietta, Texas	29.06	738.1	29.98		64	17.8	78	S	5	2.2		Haze	0			0	0	Hazy	
Indianapolis, Indiana	29.31	744.5	30.07	761.5	68	20.0	70	S	1	0.4		5k	0	S		0	0	Fair	
Indianola, Texas	29.98	761.5	30.01	763.8	72	22.2	90	NE	21	9.4			10s		NE	0.68	17.8	Cloudy	
Jacksboro, Texas	28.91	734.3	30.00	762.2	70	21.1	75	S	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.10	762.0	76	24.4	77	NE	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa	29.31	744.5	29.89	764.5	73	22.8	72	SW	8	3.6			10s		Calm	Inap.	Inap.	Cloudy	
Key West, Florida	29.98	761.5	30.01	759.2	84	28.9	75	E	9	4.0		5k	0	E		Inap.	Inap.	Fair	
Kittyhawk, North Carolina	30.11	764.8	30.13	762.2	71	21.7	71	NE	16	7.2		8ck	0	SW		0	0	Fair	
Knoxville, Tennessee	29.20	741.7	30.19	765.3	63	17.2	83	Calm	0	0		8k	2s	W	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.13	739.9	29.83	766.8	68	20.0	84	Calm	0	0			10s		Calm	0.75	19.1	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.25	767.7	52	11.1	79	Calm	0	0		0	Haze		Calm	0	0	Clear	
Laredo, Texas				768.3															
Leavenworth, Kansas	29.12	739.6	29.93	760.2	78	22.8	63	S	7	3.1			10s			Inap.	Inap.	Cloudy	
Little Rock, Arkansas	29.76	755.9	30.12	765.0	64	17.8	94	Calm	0	0			Fog		Calm	0	0	Foggy	
Los Angeles, California	29.48	748.8	29.81	757.2	66.0	18.9	84	Calm	0	0		0	Fog		Calm	0	0	Clear	
Louisville, Kentucky	29.56	750.8	30.11	764.5	67	19.4	64	NE	3	1.3		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.53	750.0	30.20	767.1	64	17.8	89	N	1	0.4		10cs	Sm'e	SW	Calm	0	0	Cloudy	
Madison, Wisconsin	28.88	733.5	29.82	757.4	67	19.4	84	S	11	4.9		2cs	0	W		0	0	Fair	
Marquette, Michigan	29.10	739.1	29.77	756.1	65	18.3	84	S	4	1.8		5c	5s	S	Calm	0.43	10.9	Cloudy	
Mason, Texas	28.41	721.6	30.12	765.0	69	20.6	85	W	2	0.9		0	8s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.77	756.1	30.10	764.5	67	19.4	84	E	4	1.8		5k	Haze	SW	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.15	740.4	29.85	758 2	68	20.0	79	SW	14	6.3			10s		Calm	0.51	13.0	Cloudy	
Mobile, Alabama	30.03	762.7	30.07	763.8	75.5	24.2	86	NE	4	1.8		5cs	5s	W	W	0	0	Cloudy	
Montgomery, Alabama	29.90	759.4	30.13	765.3	70	21.1	70	E	5	2.2		2k	8s	W	W	0	0	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.19	741.4	30.17	766.3	60	15.6	82	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Fair	
Mt. Washington, N. H.	24.02	610.1	30.38	771.6	44	6.7	75	NW	17	7.6	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.61	752.1	30.13	765.3	69	20.6	75	SE	1	0.4	.....	1cs	Haze	Calm	Calm	0	0	Clear.....	
New Haven, Connecticut	30.04	763.0	30.16	766.1	70	21.1	80	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy.....	
New London, Connecticut	30.12	765.0	30.16	766.1	72	22.2	80	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.....	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	77	25.0	69	N	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
Newport, Rhode Island	30.11	764.8	30.16	766.1	70	21.1	85	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York	30.00	762.0	30.17	766.3	68	20.0	79	NW	3	1.3	.....	0	Haze	.....	.....	0	0	Clear.....	
Norfolk, Virginia	30.15	765.8	30.20	767.1	68	20.0	79	Calm	0	0	.....	.....	10s;fg	.....	SW	0	0	Cloudy.....	
North Platte, Nebraska	27.11	688.6	29.62	752.3	58	14.4	91	W	6	2.7	.....	2c	0	W	.....	0.01	0.3	Clear.....	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	54.5	12.5	93	Calm	0	0	.....	.....	10s;sme	.....	Calm	0	0	Cloudy.....	
Omaha, Nebraska	28.77	730.7	29.82	757.4	67	19.4	79	SW	3	1.3	.....	5c	2s	NW	Calm	Inap.	Inap.	Fair	
Oswego, New York	29.84	757.9	30.16	766.1	60	15.6	94	S	5	2.2	.....	8c	Haze	W	Calm	0	0	Fair.....	
Pembina, Dakota	29.06	738.1	29.86	758.4	54	12.2	100	NW	8	3.6	.....	.....	9n	.....	Calm	0.28	7.1	Light rain..	
Philadelphia, Pa	30.12	765.0	30.17	766.3	68	20.0	74	W	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Phœnix, Arizona	28.65	727.7	30.32	770.1	78	25.6	39	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	35	1.7	53	W	16	7.2	.....	8ck	0	NW	.....	0.09	2.3	Fair.....	
Pilot Point, Texas	29.11	739.4	29.88	758.9	79	26.1	61	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Ploche, Nevada	.....	.....	.....	.....	66	18.9	36	NW	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Pittsburg, Pennsylvania	29.36	745.7	30.15	765.8	62	16.7	83	S	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.39	746.5	30.02	762.5	67	19.4	74	S	9	4.0	.....	10cs	0	W	.....	0.06	1.5	Cloudy.....	
Portland, Maine	30.09	764.3	30.14	765.5	63	17.2	78	W	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear.....	
Portland, Oregon	29.92	760.0	29.99	761.7	59.0	15.0	91	Calm	0	0	.....	0	1s	.....	NW	0	0	Clear.....	
Prescott, Arizona	24.78	629.4	30.14	765.5	69	20.6	35	NW	.....	.....	1	1ck	0	W	.....	Inap.	Inap.	Clear.....	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	80	26.7	78	NE	10	4.5	.....	5c;cs	0	W	.....	0.07	1.8	Fair.....	
Red Bluff, California	29.41	747.0	29.75	755.6	69	20.6	43	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.75	755.6	29.96	761.0	71	21.7	95	N	4	1.8	.....	.....	10s	.....	E	3.26	82.8	Cloudy	
Rochester, New York	29.42	747.3	30.01	762.2	69	20.6	65	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.41	747.0	29.97	761.2	58	14.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California	29.67	753.6	29.75	755.6	69	15.0	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.49	749.0	30.04	763.0	70	21.1	61	SW	12	5.4	.....	0	5ks	.....	SE	0	0	Fair.....	
St. Marks, Florida	30.08	764.0	30.10	764.5	73	22.8	76	E	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear.....	
St. Paul, Minnesota	29.02	737.1	29.82	757.4	62	16.7	77	W	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	79	26.1	21	NW	11	4.9	.....	.....	10ks	.....	W	0	0	Cloudy.	
San Antonio, Texas	29.35	745.5	29.91	759.7	71	21.7	85	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
San Diego, California	29.76	755.9	29.83	757.7	68	20.0	90	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.45	748.0	30.10	764.5	66	18.9	69	S	9	4.0	.....	5c	Haze	S	Calm	0	0	Fair.....	
Sandy Hook, New Jersey	30.13	765.3	30.16	766.1	74	23.3	63	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California	29.76	755.9	29.82	757.4	55	12.8	93	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	56	13.3	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.05	763.3	30.14	765.5	71	21.7	80	NE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Shreveport, Louisiana	29.84	757.9	30.05	763.3	65	18.3	94	SE	2	0.9	.....	8cs	0	SE	.....	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.14	765.5	30.18	766.6	70	21.1	90	N	5	3.6	.....	0	8s	.....	E	0	0	Cloudy.....	
Socorro, New Mexico	25.44	646.2	29.50	749.3	67	19.4	33	S	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear.	
Springfield, Ill	29.36	745.7	30.00	762.0	73	22.8	63	S	10	4.5	.....	5k	5s	W	SW	0.08	2.0	Cloudy.....	
Springfield, Massachusetts	30.03	762.7	30.16	766.1	65	18.3	84	NE	2	0.9	.....	0	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	27.02	686.3	30.02	762.5	65	18.3	26	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.12	765.0	30.17	766.3	66	18.9	84	SW	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.38	746.2	30.04	763.0	68	20.0	65	W	6	2.7	.....	5c	Sm'e	W	.....	0	0	Fair.....	
Tucson, Arizona	27.47	697.7	30.02	762.5	75	23.9	48	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.....	
Umatilla, Oregon	29.51	749.5	29.98	761.5	67.0	19.4	62	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	70	21.1	85	Calm	0	0	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Virginia City, Montana	24.33	618.0	29.81	757.2	65	18.3	36	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.38	746.2	29.78	756.1	69	20.6	52	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	30.08	764.0	30.19	766.8	68	20.0	74	S	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	70	21.1	75	NE	7	3.1	.....	5ck	0	SE	.....	0	0	Fair.....	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	63	17.2	42	E	7	3.1	.....	0	1s	.....	Calm	0.01	0.3	Clear.....	
Wood's Holl, Mass	30.12	765.0	30.16	766.1	69	20.6	90	SW	10	4.5	.....	.....	8ks	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	28.69	728.7	29.96	761.0	57	13.9	81	N	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog...	
Yuma, Arizona	29.62	752.3	29.78	756.4	78	25.6	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba. W. I	29.94	760.5	29.99	761.7	83	28.3	74	SE	1.2	0.5	.....	0	0	.....	.....	0	0	Clear.....	J. B. Gordon.
Kingston, Jamaica, W. I	30.15	765.8	30.16	766.1	79	26.1	84	N	.....	.....	.....	2c	0	Calm	.....	0	0	Fine.....	Chas. Hasselbr.ux.
Medellin, Colombia, S. A.*	25.25	641.3	.....	.....	65.5	18.6	90	Calm	.....	.....	0	.....	10n	.....	.....	0.91	23.1	.....	James Gall.
Navassa, W. I	29.88	758.9	29.96	761.0	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	.....	.....	Slightly cl'dy	Thomas Herran.
Paramaribo, D. Guiana, S.A	29.97	761.2	29.97	761.2	83	28.3	79	SE	.....	.....	2	3c	5k	E	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Hering.
St. Thomas, W. I	29.63	752.6	29.64	752.8	84	28.9	75	E	5	2.2	.....	2c	2ks	E	.....	0	0	Clear.....	Robert Mason.
York Factory, B. A	30.09	764.3	30.14	765.5	46.0	7.8	96	S	11	4.9	.....	0	1s	.....	S	0	0	Fair	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,764.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.16 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.40‡	772.1‡	.....	.....	80	26.7	70	NE	12	5.4	.....	.....	6	.....	SW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.80‡	756.9‡	.....	.....	77	25.0	88	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Mare I'd, Navy Yard, Cal.	29.86‡	758.4‡	.....	.....	57	13.9	100	SSW	.....	....	4	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy	
Alliance, Stockholm, Sweden.....	29.79‡	756.7‡	.....	.....	65	18.3	73	N	.....	.....	3	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Ashuelot, Yokohama, Japan	29.80‡	756.9‡	.....	.....	78	25.6	86	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Colorado. New York, N. Y.....	29.97‡	761.2‡	.....	.....	68	20.0	84	WSW	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constellation, Newport, R. I.....	30.14‡	765.5‡	.....	.....	70.3	21.3	85	S	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution. Navy Yard, Brooklyn, N.Y.	30.16‡	766.1‡	.....	.....	72	22.2	76	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Enterprise, N. 53° 36′, E. 3° 34′.....	30.08‡	764.0‡	.....	.....	59	15.0	82	E	.....	.....	2	.....	10	.....	NE	.....	.....	Long	N;E	Cloudy.....	
Essex, S. 23° 37′, W. 42° 43′.....	30.04‡	763.0‡	.....	.....	68	20.0	95	WSW	.....	.....	1	.....	1	.....	WSW	.....	.....	Long	SW	Clear.....	
Franklin. Norfolk, Va.	30.19‡	766.8‡	.....	.....	68	20.0	84	W	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Hartford Rio de Janeiro, Brazil...	30.09‡	764.3‡	.....	.....	65	18.3	89	N	2	0.9	.....	.....	8	.....	N	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd. Navy Yard, Cal.	29.82‡	757.4‡	.....	.....	62	16.7	88	SW	4.8	2.1	.....	.....	4	.....	SW	0	0	.....	.....	Clear	
Kearsarge, Pictou, Nova Scotia.....	30.01‡	762.2‡	.....	.....	65	18.3	68	NW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Michigan, Chicago, Ill.....	29.88‡	758.9‡	.....	.....	66.5	19.2	62	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....	Rainy.....	
Monocacy, Shanghai, China.....	29.75‡	755.6‡	.....	.....	87	30.6	88	SSE	.....	.....	2	.....	2	.....	SSE	.....	.....	.....	.....	Clear.....	
Monongahela, Yokohama, Japan.....	29.80‡	756.9‡	.....	.....	80	26.7	82	SW	.....	.....	1	.....	k	.....	.....	0	0	.....	.....	D. clouds.....	
New Hampshire. Port Royal, S. C.....	30.12‡	765.0‡	.....	.....	72	22.2	80	NE	13	5.8	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†.	29.99‡	761.7‡	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China.....	29.76‡	755.9‡	.....	.....	85	29.4	92	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	.....	.....	.....	.....	70	21.1	80	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	29.99‡	761.7‡	.....	.....	63	17.2	89	SW	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Portsmouth. N. 43° 30′, W. 70° 03′.	30.15‡	765.8‡	.....	.....	60	15.6	82	NW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Powhatan. N. 26° 41′, W 84° 40′.....	30.02‡	762.5‡	.....	.....	84	28.9	71	NE	.....	.....	3	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Quinnebaug. Trieste, Austria.....	29.86‡	758.4‡	.....	.....	81	27.2	45	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Nagasaki, Japan.....§.	30.05‡	763.3‡	.....	.....	84	28.9	87	SW	.....	.....	1-2	.....	5	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Richmond, Yokohama, Japan	29.78‡	756.4‡	.....	.....	80	26.7	96	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.89‡	759.2‡	.....	.....	75	23.9	??	NE	.....	.....	1	.....	10	.....	Calm	0.58	14.7	.....	.....	Cloudy.....	
Santee, Annapolis, Md.....	30.19‡	766.6‡	.....	.....	70	21.1	70	W	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Saratoga, New Bedford, Mass.....	30.18‡	766.0‡	.....	.....	69	20.6	80	SW	.....	.....	2	.....	5	.....	S	0	0	.....	.....	Squally.....	
St. Louis, League Island, Pa	30.16‡	766.1‡	.....	.....	69	20.6	80	SW	8	3.6	.....	.....	2	.....	SSW	0	0	.....	.....	Clear.....	
Trenton, Gravesend, Eng.....	29.98‡	761.5‡	.....	.....	67	19.4	84	ESE	.....	.....	3-4	.....	0	.....	.....	0.01	0.3	Smooth	.....	Clear.....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.8 1	757.7‡	.....	.....	61	16.1	94	SSW	.....	.....	3	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 26° 22′, W. 79° 56′.....	30.03‡	762.7‡	.....	.....	84	28.9	83	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Wabash. Boston Mass.....	30.15‡	765.8‡	.....	.....	65	18.3	84	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Wachusett, N. 28° 00′, W. 79° 40′.....	30.09‡	764.3‡	.....	.....	84	28.9	79	NNE	.....	.....	2	.....	5	.....	W	.....	.....	Mod'ate	NE	Fair.....	
Wyoming, Sinope, Black Sea.....	29.87‡	758.7‡	.....	.....	70	21.1	??	SSE	.....	.....	0-1	.....	10	.....	SSE	.....	.....	Long	SSE	Cloudy.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Panger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 17° 16′, W. 101° 16′		29.90‡	759.4‡	80	26.7	91	ENE			2		10		ESE	0.94 in. or 23.9mm	Long; easy.	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.74‡	755.4‡				SW			2		1		SW				Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 24° 46′, E 119° 02′		29.82‡	757.9‡	81	27.2	96	SSW			5		3cs			0	Mod'ate	SSW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 13′, W. 67° 30′		30.07‡	763.8‡				NNW			5		5?		NW		6	WSW	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, N. 51° 20', W. 11° 47'..		29.67‡	753.6‡	60	15.6	88	S			2		2		SW	0	Mod'ate	SW	Clear.....	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania..																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 38° 37', W. 14° 20'.		29.86‡	758 4‡	67.7	19.8	91	WNW			3–5		6				4	WNW	Showery..	Capt. W. Randall. Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden.																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith.																			

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

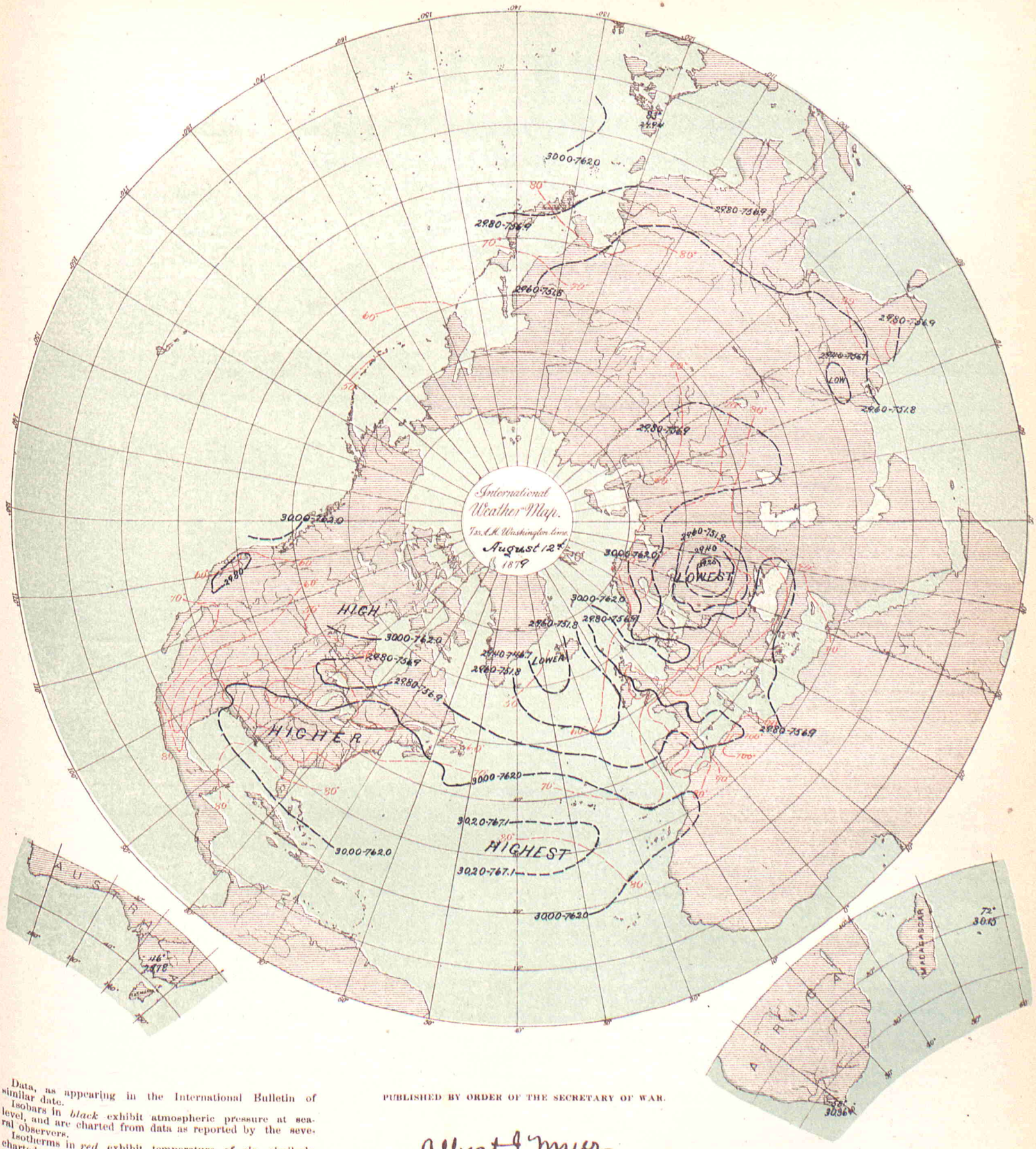
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	71.6	22.0	83	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.95	760.6	74.8	23.8	86	WNW	.....	.....	2	.....	10	.....	.....	0.098	2.5	Covered	Kesxuche.
Algiers	.....	.....	29.85	758.3	82.4	28.0	67	W	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Tourillere.
La Calle	.....	.....	29.86	758.5	84.0	28.9	73	NNE	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.87	758.7	81.0	27.2	31	N	.....	.....	4	.....	10	.....	.....	0	0	Covered	Herbin.
Geriville	.....	.....	29.92	760.0	96.4	35.8	33	N	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	73.6	23.1	37	SW	.....	.....	7	.....	2	.....	.....	0	0	Fair	Brugniaux.
Biskra	.....	.....	29.86	758.4	100.8	38.2	29	SE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	29.84	757.9	104.0	40.0	25	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.35	745.5	29.87	758.8	77.2	25.1	50	SW	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.04	737.5	29.78	756.5	64.8	18.2	73	WSW	13.4	6.0	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.88	733.6	29.73	755.1	67.6	19.8	72	Calm	.....	.....	0	.....	8s	.....	SE	0	0	.....	Julius Mikolik.
Gratz	28.68	728.4	29.88	758.9	72.9	22.7	76	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.39	721.0	29.76	755.8	71.6	22.0	43	WNW	.....	.....	2	.....	4	.....	.....	0.004	0.1	.....	Prof. A. Gottschling.
Kremsmünster	28.61	726.6	29.89	759.3	70.5	21.4	75	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.59	726.1	29.55	750.5	58.6	14.8	90	NW	.....	.....	3	.....	10	.....	.....	0.732	18.6	.....	Dr. T. Stanecki.
Pola	29.77	756.2	29.88	758.9	82.4	28.0	50	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.66	753.3	30.11	764.7	72.3	22.4	52	SW	.....	.....	3	.....	8	.....	.....	0.154	3.9	.....	G. Sanctjohanser.
Szegedin	29.56	750.9	29.83	757.7	74.1	23.4	51	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.78	756.3	29.88	758.9	80.5	27.1	54	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.21	741.9	29.93	760.2	72.0	22.7	43	WNW	.....	.....	3	.....	1	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.84	757.9	56.5	13.6	.....	SSE	30	13.4	.....	.....	10	.....	.....	0.070	1.78	Squally.....	W. Boswell.
Ardrossan	29.67	753.6	29.69	754.1	61	16.1	.....	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.43	747.5	29.65	753.1	62.6	17.0	.....	S	11	4.9	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	63.2	17.3	.....	SE	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	.....	.....	29.80	756.9	63.1	17.3	.....	SE	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast....	Thomas Mackereth.
Bradford, Yorkshire	29.45	748.0	29.84	757.9	63.0	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.93	760.2	75	23.9	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Raining.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.77	756.1	29.86	758.4	71.0	21.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	29.85	758.2	70.0	21.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder.....	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	73.9	23.3	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.65	753.1	29.69	754.1	62	16.7	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	J. Mac Gowan.
Dover	29.85	758.2	29.88	758.9	68	20.0	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.64	752.8	29.86	758.4	67.3	19.6	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier (Natal)	27.86	707.6	30.15	765.8	65.5	18.6	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	82	27.8	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.60	751.8	62	16.7	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.80	756.9	29.85	758.2	77.3	25.2	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.50	749.3	29.71	754.6	67.9	19.9	.....	SSE	.....	.....	8	.....	8	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.92	760.0	29.93	760.2	64	17.8	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.69	754.1	29.86	758.4	72.3	22.4	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.79	756.7	30.01	762.2	65	18.3	.....	WSW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.92	760.0	30.04	763.0	69	20.6	.....	SW	.....	.....	2	.....	3ck	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.80	756.9	29.79	756.7	65	18.3	.....	SSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.63	752.6	29.92	760.0	62.6	17.0	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.80	756.9	29.84	759.7	70.1	21.2	.....	SSE	5	2.2	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum.	29.56	750.8	29.80	756.9	68.1	20.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	86.4	30.2	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.67	751.1	29.65	753.1	67	19.4	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.01	762.2	86.5	30.3	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.66	753.4	29.85	758.2	65.7	18.7	.....	SSE	.....	.....	3	.....	10d;k	.....	S	0.210	5.33	Raining.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.31	744.5	29.82	757.4	62.8	17.1	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Threatening	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.82	757.4	67	19.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.77	756.1	29.84	757.9	67.5	19.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.67	753.6	29.79	756.7	63	17.2	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded ...	Wm. Kennedy.
Saint Ann's Head	29.66	753.4	29.81	757.2	62	16.7	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.74	755.4	50.1	13.4	.....	SE	42	18.8	.....	.....	10	.....	.....	0	0	Misty.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.67	753.6	29.73	755.1	87.6	30.9	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	29.60	751.8	29.87	758.7	63.1	17.3	.....	S	.....	.....	1	.....	10	.....	.....	0.07	1.8	Raining	W. F. Cooper.
Silloth Rectory	29.74	755.4	29.77	756.1	72.5	22.5	72	W	.....	.....	3	.....	6	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.82	757.4	62.8	17.1	.....	NNE	2	0.9	.....	.....	10	.....	.....	Blank	Blank	Overcast.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	66.4	19.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.88	758.9	29.88	758.9	71	21.7	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	W.Newcombe.
Valencia, Observatory	29.68	753.9	29.71	754.6	59.2	15.1	.....	SW	31	13.9	.....	.....	10	.....	.....	.....	.....	Gloomy	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.32	770.1	30.36	771.1	61.6	16.4	.....	NW	2.9	1.3	.....	0	2	.....	.....	0	0	Clear..	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.78	756.4	68.1	20.1	.....	SW	.....	.....	3	.....	10k	.....	.....	0.04	1.0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.99	761.7	30.18	766.6	72.2	22.3	68	NE	15.0	6.7	.....	0	4	.....	E	0.78	19.8	Fine.....	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	48.0	8.9	85	WSW	2	0.9	.....	.....	10	.....	.....	0.13	3.3	Misty.....	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.94	658.9	.....	.....	68.5	20.3	.....	NW	.....	.....	.....	c	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—	Weather	Observer
H. M. S. "Fawn," N. 41° 00′. E. 28° 45′	.....	.....	Misty.....	Capt. W. J. L. Wharton.
Atmosphere, N. 49° 50′ W. 6° 00′	3	WSW	Blue sky.....	.....
Barque Commewyne, N. 50° 15′, W. 12° 35′	.....	.....	Blue sky.....	Capt. A. Buchan.
German Brig "W. von Freeden" N. 41° 05′, W. 50° 15′	5	NW	D. clouds.....	Capt. H. v. Freeden.
Theophane, N. 31° 25′, W. 35° 40′	.....	.....	D. clouds....	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.
Algeria	.....	.....	.....	Capt. Wm. Watson.
Gordon Castle	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.22	666.0	29.94	760.5	67.1	19.5	88	SE	.....	.....	1	7ck;d	.....	NE	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.6	29.95	760.8	69.4	20.8	73	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....
Fanöe	29.98	761.6	30.00	762.1	75.0	23.9	54	N	.....	.....	4	.....	1	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.54	750.2	29.58	751.3	43.5	6.4	96	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy
Stykkisholm (Iceland)	29.28	743.8	29.33	744.9	57.0	18.9	81	SE	.....	.....	6	.....	8	.....	.....	.....	.....	Raining
Thorshavn (Faröe)	29.67	753.5	29.70	754.4	54.3	12.4	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy
Vestervig	29.94	760.5	30.05	763.3	65.8	18.8	86	NNW	.....	.....	2	.....	1	.....	.....	.....	.....	Foggy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.3	29.89	759.3	78.4	25.8	73	S	.....	.....	1	.....	8n	.....	S	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.78	756.3	29.88	758.9	84.2	29	45	E	.....	.....	1	.....	2	.....	W	0	0	Slightlycl'dy	Bonvallet, Director.
Arras, Engin'r School	29.65	753.0	29.89	759.1	77.4	25.2	39	SSE	.....	.....	1	.....	.....	.....	S	0	0	Very clear	Giraud, Director.
Avignon, Normal School	29.80	756.9	29.88	758.9	93.2	34	33	E	.....	.....	1	.....	0	.....	.....	0	0	Slightlycl'dy	C. Saillard, Director.
Bar-sur-Seine	29.34	745.3	29.87	758.6	81.3	27.4	45	SE	.....	.....	1	.....	2cn	.....	.....	0	0	Cloudy	Frere Eugene Marie.
Beauvais, Normal School	29.63	752.5	29.88	758.9	77.6	25.5	53	SE	.....	.....	1	.....	5	.....	WSW	0	0	Cloudy	A. Carré, Director.
Besançon, Normal School	29.07	738.4	29.92	759.9	81.7	27.6	76	S	.....	.....	1	.....	5	S	.....	0	0	Cloudy	Frere Eugene Marie.
Bourg-en-Bresse, N. School	29.07	738.3	30.00	762.0	86.7	30.4	55	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.33	744.9	29.85	758.2	78.8	26	76	SW	.....	.....	1	.....	cs	SW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.63	752.6	29.87	758.7	73.0	22.8	69	SW	.....	.....	1	.....	4	.....	W	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.43	747.6	29.82	757.5	80.6	27	46	E	.....	.....	1	.....	10	E	E	0	0	Covered	September, Dir.
Caen, Normal School	29.71	754.5	29.78	756.3	79.5	26.4	60	W	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.30	744.2	29.89	759.1	87.8	31	74	SE	.....	.....	4	.....	8	.....	NW	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.60	751.7	29.89	759.2	84.2	29.0	67	S	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.52	724.5	29.78	756.5	88.9	31.6	44	NE	.....	.....	1	.....	8	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.08	738.6	29.89	759.3	77.0	25	62	E	.....	.....	1	.....	5cs	E	E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.5	29.08	761.5	89.2	31.8	32	W	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.15	740.3	29.87	758.7	82.4	28.0	61	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.67	753.6	29.87	758.8	72.7	22.6	77	W	.....	.....	1	.....	5	.....	SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.56	750.9	29.85	758.3	80.6	27	63	W	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.02	737.2	29.91	759.6	81.5	27.5	65	W	.....	.....	1	.....	2ck	W	W	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.82	757.4	29.92	760.0	69.8	21.0	76	WSW	.....	.....	2	.....	.....	SW	W	0	0	.....	Ch. André, Director.
Lyons Obs'y (Park Station)	29.27	743.4	29.85	758.1	86.5	30.3	54	ESE	.....	.....	1	c.	.....	.....	.....	0	0	.....	Galsin, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Stephan, Director
Marseilles, Observatory	29.61	752.1	29.87	758.7	77.0	25.0	69	WSW	.....	.....	1	.....	1	.....	WSW	0	0	Slightly cl'dy	Barbier, Director.
Mirecourt, Normal School	28.91	734.2	29.91	759.7	72.0	22.2	63	N	.....	.....	1	2c	.....	W	W	.....	.....	Raining	M. Cave.
Mont-Louis	24.02	633.0	30.24	768.0	69.8	21.0	49	S	18.6	8.3	.....	.....	10	.....	S	0.299	7.6	Slightly cl'dy	M. Boissiéré, Director.
Nice	29.88	759.0	29.91	759.8	82.8	28.2	73	SE	.....	.....	2	.....	2	E	SE	0	0	Clear	M. Boyer, Director.
Nismes, Normal School	29.68	753.9	29.87	758.7	90.1	35.6	42	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Marie Davy, Director
Paris, Montsouris Obs'y	.....	.....	29.90	759.9	82.2	27.9	43	Calm	.....	.....	0	.....	6	.....	ESE	0	0	.....	M. Baylac.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gen'l de Nansouty.
Pic du Midi (Plantade) H. P.	22.63	574.8	.....	.....	55.4	13.0	.....	SSW	.....	.....	2	.....	10	.....	S	0.075	1.9	Threatening	Dr. Fines.
Perpignan	29.80	756.8	29.90	759.4	78.1	25.6	71	S	5.6	2.5	.....	.....	10	.....	.....	0	0	Foggy	Cantier, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Puy de Dome (Summit) Obs	25.26	641.7	.....	.....	67.6	19.8	57	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Lt. E. Decante, Director.
Rochefort, Naval Obs'y	29.90	759.4	29.93	760.2	74.3	23.5	78	W	.....	.....	1	.....	10	W	W	0.04	1.	Covered	Frere Lucard, Director.
Rouen, Normal School	29.76	756.0	29.85	758.1	82.8	28.2	50	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director.
Saint Malo (Port) Obs'y	29.87	758.7	29.90	759.5	66.4	19.1	81	WNW	.....	.....	2	.....	1	WNW	WNW	0	0	Clear	E. Renou, Director.
Saint Maur (near Paris)	29.71	754.6	29.88	758.9	82.0	27.8	50	ESE	.....	.....	1-2	.....	2	.....	.....	0	0	.....	T. Huguet, Director.
Tarbes, Normal School	28.85	732.8	29.89	759.3	73.4	23	60	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Julier Mercadier.
Toulouse, Observatory	29.23	742.5	29.95	760.8	75.9	24.4	66	SSE	.....	.....	1	.....	8	.....	.....	0	0	.....	Cousin-Marquet.
Tours	29.67	753.6	29.87	758.6	84.2	29.0	50	NE	.....	.....	1	.....	2	.....	S	0	0	¼ covered	Dr. A. Berigny, Director
Versailles, Observatory	29.40	746.8	29.89	759.3	82.0	27.8	54	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
Villefranche-sur-Saone, N.S.	29.23	742.5	29.90	759.4	87.8	31	56	W	.....	.....	1	.....	2	.....	E	0	0	Slightlycl'dy	
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.46	88.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.74	755.5	29.77	756.1	84.4	29.1	84	SSE	5.8	2.6	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 8 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 1–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.3	29.99	761.7	67.3	19.6	56	N			2		0			0	0		Prof. Dr. Hoh.
Berlin	29.78	756.4	29.95	760.6	73.4	23.0	61	NW			2		4			0	0		Prof. Dr. Arndt.
Breslau	29.36	745.7	29.89	759.1	67.5	19.9	64	WNW			4		8			0	0		Royal University Obs'y.
Carlsruhe	29.51	749.5	29.92	759.9	75.7	24.3	53	NE			1		0			0	0		Albert Sens.
Cassel	29.45	747.9	30.06	763.4	70.5	21.4	61	N			1		0			0	0		Dr. H. Möhl.
Crefeld	29.79	756.6	29.95	760.7	76.6	24.8	49	SE			2		2			0	0		Director Lose.
Emden			29.95	760.6	73.8	23.2	65	E			1		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.62	752.3	29.98	761.4	73.0	22.8		ENE			1		1			0	0		Physical Society.
Freienwalde on the Oder	29.88	758.9	29.92	759.9	74.5	23.6	59	NW			5		3k	NW		0	0		Dr. Assmann.
Friedrichshafen	28.52	724.5	29.91	759.7	69.8	21.0	71	SW			4		0			0	0		M. Wilhelm.
Hamburg	29.94	760.5	30.01	762.2	70.5	21.4	71	NW			2		4k			0	0	Fair	Captain F. Hegemann.
Kiel	30.00	761.9	30.01	762.3	69.6	20.9	63	NNE			2		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.59	751.6	29.67	753.6	66.2	19.0	62	NE			3		6			0.071	1.8		Prof. E. Luther.
Köslin			29.84	757.9	60.8	16.0		NW			4		4			0	0		H. Müller.
Leipsic Observatory	29.58	751.3	29.98	761.6	72.0	22.2	55	NW			2		3	NW		0	0		Prof. Brahms, Privy Counselor.
Memel	29.62	752.3	29.67	753.5	68.0	20.0	56	NNE			5		1ck						Skalweit.
Munich (München)	28.18	715.7	30.04	763.0	70.3	21.3	40	E			2		1			0	0		Dr. C. Lang.
Neufahrwasser	29.74	755.5	29.76	755.9	63.3	17.4	88	NNW			4		10			0.055	1.4		A. Lothes.
Posen	29.50	749.2	29.78	756.3	69.1	20.6	67	NW			8		10			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.41	746.9	29.93	760.2	74.7	23.7	61	NE			2		2			0	0		Imp. University Observatory.
Stuttgart	29.00	736.5	29.89	759.2	77.0	25.0	33	E			1		0			0	C		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.49	723.7	29.93	760.3	70.2	21.2	35	Calm	0	0						0	0	Hazy	T. Hopfner.
Wustrow	29.96	760.9	29.98	761.5	68.2	20.1	70	WNW			2		3k			0	0		E. Schütz, Director
German Naval Series																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.40	746.8	29.77	756.2	88.2	31.2		SW			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.43	747.6	29.48	748.9	83.0	28.3	71	W	14.0	6.3			6			0	0		D. clouds
Deesa	29.15	740.3	29.62	752.3	80.2	26.8	85	WSW	9.3	4.2			10		SW	0.04	1.0		Overcast
Bombay	29.69	754.1	29.73	755.1	79.7	26.5	90	WSW	24.0	10.7			10		SW	0.13	3.3		Raining
Poona	27.88	708.1	29.75	755.6	72.0	22.2	90	W	13.0	5.8			10		W	0.15	3.8		Drizzling
Lahore	28.79	731.4	29.52	749.8	87.0	30.6	66	NE	2.3	1.0			5			0.18	4.6		D. clouds
Belgaum	27.28	693.0	29.85	758.3	68.6	20.3	96	W	11.0	4.9			10		W	0.92	23.4		Drizzling
Roorkee	28.65	727.8	29.53	750.2	84.8	29.3	74	SE	4.7	2.1			7			0.20	5.1		D. clouds
Agra	28.93	734.8	29.47	748.4	82.7	28.2	87	E					8		E	0	0		
Nagpur	28.59	726.2	29.62	752.4	80.7	27.1	81	WSW	6.3	2.8			8		NE	0.19	4.8		Gloomy
Lucknow	29.20	741.6	29.56	750.9	88.2	31.2	76	Calm	3.9	1.7			8	SW		0.03	0.8		D. clouds
Allahabad	29.27	743.5	29.58	751.3	85.6	29.8	78	WNW	1.3	0.6			8			0.02	0.5		D. cloud
Patna	29.42	747.4	29.60	752.0	82.7	28.2	85	Calm	0.3	0.1			6	E	E	0.11	2.8		D. clouds
Hazaribagh	27.63	701.9	29.64	752.9	75.6	24.2	88	SSE	6.6	3.0			10			0.29	7.4		Thunder-storm
Cuttack	29.59	751.6	29.67	753.7	84.0	28.9	81	S	2.0	0.9			9			0.04	1.0		D. clouds
Calcutta (Alipore)	29.65	753.1	29.67	753.6	81.9	27.7	87	SSW	2.0	0.9			10	SSW	SSW	0	0		Overcast
Goalpara	29.27	743.5	29.66	753.4	80.7	27.1	88	Calm	2.5	1.1			9			0.17	4.3		Showery
Chittagong	29.67	753.6	29.76	755.9	79.7	26.5	89	SE	6.2	2.8			6			0	0		Misty
Sibsagar	29.37	746.2	29.70	754.4	81.0	27.2	87	WSW	1.8	0.8			10	W	W	0.11	2.8		Overcast
Jubbulpore	28.27	718.0	29.02	752.4	79.8	26.6	80	W	5.7	2.6			4		S	0	0		D. clouds

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.45	748.1	29.85	758.1	81.1	27.3	35	SE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.37	746.0	29.86	758.5	83.8	28.8	40	WSW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.77	756.2	29.88	758.9	81.7	27.6	39	E	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.89	736.1	29.85	758.2	82.6	28.1	42	ESE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.71	754.6	29.89	759.3	79.2	26.2	70	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.00	711.2	29.83	757.7	80.8	27.1	54	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.83	757.7	29.88	758.9	78.6	25.9	57	NE	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.62	752.4	29.87	758.6	87.8	31.0	39	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.83	757.7	29.91	759.8	81.1	27.3	65	W	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.70	754.4	29.87	758.7	86.7	30.4	49	W	12.5	5.6	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.61	752.1	29.85	758.3	81.7	27.6	40	NNE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	28.99	736.4	29.83	757.7	89.2	31.8	59	N	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.71	754.5	29.89	759.2	83.8	28.8	66	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.63	752.6	29.87	758.8	80.8	27.1	72	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.80	757.0	29.88	758.9	87.8	31.0	55	S	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.35	745.6	29.91	759.7	84.2	29.0	59	WSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.70	754.4	29.71	754.6	83.1	28.4	73	SW	14.3	6.4	.....	.....	4s	.....	.....	0	0	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.61	752.1	29.81	757.2	80.8	27.1	86	SW	8.0	3.6	.....	.....	4s	.....	.....	0.060	1.52	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.55	750.6	29.62	752.3	77.6	25.3	91	S	3.0	1.3	.....	3cs	0	.....	.....	0.002	0.05	Fair	The Staff.
Wakayama	29.65	753.1	29.69	754.1	80.9	27.2	82	SW	2.1	0.9	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	30.00	762.0	59.4	15.2	87	SW	.....	.....	1	.....	10	.....	SE	0.65	16.6	Covered	P. Ceballos.
Guadalajara	25.02	635.4	30.00	762.0	63.3	17.4	89	NW	.....	.....	2	0	9n	.....	SE	0.36	9.1	Very cloudy	Prof. L. Perez.
Leon	24.40	619.7	30.02	762.4	63.3	17.4	89	NW	.....	.....	2	0	9n	.....	SE	0.36	9.1	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	29.97	761.3	58.6	14.8	90	Calm	0	0	.....	.....	10k	.....	.....	0.02	0.5	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.1	17.3	88	NW	.....	.....	1	.....	9n	.....	NE	0.26	6.7	Very cloudy	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.7	29.88	759.0	79.7	26.5	90	SW	.....	.....	2	7	0	SW	.....	0	0	Cloudy	Prof. M. M. Chávaro.
San Luis Potosi	24.16	614.1	30.10	764.6	60.4	15.8	66	SE	.....	.....	2	.....	10	.....	SE	0.06	1.4	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.57	573.2	30.12	765.1	56.5	13.6	94	NE	.....	.....	2	9k	0	ESE	.....	8.39	86.0	Very cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.41	594.7	30.13	765.3	57.4	14.1	84	SE	0.2	0.1	.....	.....	9ck	.....	E	0.19	4.7	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.60	751.8	29.89	759.1	77.0	25.0	92	NE	.....	.....	1	5cs	3n	SE	NE	0	0	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.93	760.2	29.93	760.2	73.0	22.8	.....	ESE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.00	761.9	30.01	762.3	69.8	21.0	.....	E	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	29.99	761.7	29.99	761.7	65.8	18.8	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.92	760.0	29.92	760.0	71.6	22.0	67	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.93	760.1	29.97	761.3	71.0	22.0	58	ESE	.....	.....	2	.....	3	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.99	761.7	30.04	763.1	68.0	20.0	78	NNW	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.06	763.5	30.10	764.5	64.4	18.0	66	NNE	18	8	.....	.....	0	.....	.....	0	0	.....	
Ohristiania	29.89	759.1	30.02	762.8	77.0	25.0	43	ENE	4	2	.....	.....	2	.....	.....	0	0	.....	
Tromsö	30.12	765.0	30.16	766.1	54.3	12.4	72	NE	11	5	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.98	761.6	30.17	766.3	74.8	23.8	82	W	8.7	3.9	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.2	29.94	760.4	77.0	25.0	40	SSW	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.01	762.2	30.10	764.4	74.5	23.6	53	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.64	752.9	29.99	761.8	73.2	22.9	57	NNW	7.4	3.3	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.11	764.8	30.20	767.0	78.8	26.0	67	N	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell: Height in scale 0—9	Sea or swell: Direction from		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.00	762.1	68.7	20.4	.....	NW	.....	.....	3	.....	6	.....	NW	1	NW	D. clouds.....	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island.	.....	.....	29.97	761.3	81.7	27.6	.....	NE	.....	.....	3	.....	9	.....	NE	2	.....	D. clouds.....	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A. de Brito Capello, N. 1° 06', W. 2° 42'	.....	.....	30.05	763.3	74.3	23.5	.....	SSE	.....	.....	4	.....	5	.....	SSE	3	SSE	D. clouds.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.96	760.9	85.1	29.5	.....	SW	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky.....	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.18	741.2	29.59	751.6	64.0	17.8	82	WNW	20	9	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.06	738.1	29.47	748.5	60.6	15.9	65	NNE	13	6	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.50	749.4	29.74	755.3	69.4	20.8	57	NE	11	5	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.75	755.7	29.77	756.1	70.3	21.3	71	NE	9	4	.....	.....	10n;k;	cs].....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.81	731.8	29.41	747.1	66.0	18.9	56	W	18	8	.....	.....	8k;cks;	ckn].....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.69	754.0	29.76	755.8	76.1	24.5	48	SSW	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.4	29.84	757.9	73.0	22.8	73	W	4	2	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.12	739.7	29.65	753.0	68.2	20.1	57	S	7.8	3.5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.45	747.9	29.64	752.9	77.0	25.0	38	WSW	22	10	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.89	759.3	29.91	759.8	64.2	17.9	73	NNE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.32	719.2	29.62	752.3	94.3	34.6	26	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.87	758.6	29.78	756.5	81.5	27.5	46	NE	2	1	.....	.....	2s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Krotkowo*	29.19	741.4	29.63	752.7	72.0	22.2	65	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.38	746.3	29.64	752.9	68.9	20.5	66	E	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.89	733.7	29.62	757.3	67.5	19.7	48	SSE	2	1	.....	.....	3k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.57	751.0	29.79	756.6	88.0	31.1	24	NNW	7	3	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.23	717.0	29.69	754.1	86.0	30	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.24	742.8	29.73	755.2	55.6	13.1	76	NW	2	1	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.45	748.0	29.73	755.2	50.9	10.5	95	SW	16	7	.....	.....	10	.....	.....	.....	.....	Raining.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.47	748.5	29.61	752.1	82.4	28.0	89	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.48	748.7	29.58	751.2	72.3	22.4	89	SSE	7.8	3.5	.....	.....	10kc	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.4	29.88	759.0	80.2	26.8	72	SE	3.0	1.33	.....	.....	9	.....	.....	0	0	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.6	29.96	761.0	77.7	25.4	70	N	1.9	0.83	.....	.....	10	.....	.....	0.087	2.2	Covered.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.01	686.0	.....	.....	80.6	27.0	43	SE	9.2	4.10	.....	0	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.73	704.4	29.84	757.8	82.4	28.0	43	S	11.2	5.00	.....	0	4	.....	.....	Inap.	Inap.	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.73	755.1	29.87	758.7	83.1	28.4	51	N	5.2	2.31	.....	5	5	E	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.05	737.9	29.92	759.9	72.3	22.4	67	NE	0	0	.....	2	6	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.6	30.01	762.2	80.3	26.8	84	ENE	5.4	2.4	.....	3c	0	Calm	.....	0.713	18.1	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.0	29.94	760.4	80.6	27.0	91	NNE	0	0	.....	.....	.....	.....	E	0.019	0.5	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.87	758.7	29.97	761.1	76.6	24.8	62	WNW	8.9	4.0	.....	0	2	.....	S	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.93	760.2	30.02	762.5	84.2	29.0	72	E	10.1	4.50	.....	1c	3k	E	E	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 656.5 m, or 2,160.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.93	760.2	29.97	761.2	62.2	16.8	.....	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.10	764.6	30.15	765.9	63.3	17.4	68	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	30.04	762.9	30.09	764.2	65.8	18.8	77	N	.....	.....	4	.....	8	.....	.....	0	0	.....	
Stockholm	29.57	751.1	29.75	755.6	67.9	19.4	77	NNE	.....	.....	6	.....	5	.....	.....	0.224	5.7	.....	
Wisby	29.74	755.3	29.80	756.8	62.6	17.0	90	ENE	.....	.....	6	.....	5	.....	.....	0.063	1.6	.....	
Sub-Series.																			
Upsala	**Naval Series.**																		
Corvette Saga,	29.91	759.7	30.00	761.9	63.5	17.5	83	N	15.9	7.1	.....	.....	10	.....	N	0	0	....	Nils Ekholm.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.8	29.01	759.8	71.1	21.7	56	NNE	.....	.....	2	.....	4	.....	.....	0	0	Smoky	The Observatory.
Zurich	28.34	719.9	29.05	760.7	76.8	24.6	66	NE	.....	.....	2	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —3.0 mm.; Thermometer, —0.2 Cent.; Relative Humidity, +2 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.81	757.1	78.4	25.8	44	ENE	8	3.5	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	29.99	761.8	82.8	28.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.61	752.1	29.72	754.8	90.3	32.4	57	SW	.....	.....	4	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	W. R. Bigg.
Chatham, N. B	29.92	760.0	29.98	761.5	62	16.7	83	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	G. A. Bain.
Charlottetown, P. E. Island	29.97	761.2	30.01	762.2	66	18.9	79	SW	6	2.7	.....	0	5s	.....	W	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.90	759.4	67.1	19.5	82	NW	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	67	18.9	81	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	W. H. Bevis.
*Father Point, Quebec	29.91	759.7	29.93	760.2	53	11.7	93	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.98	761.5	30.04	763.0	63.1	17.3	80	Calm	0	0	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.12	739.6	29.93	760.2	59	15.0	91	N	4	1.8	.....	5k	5n	N	N	0	0	Cloudy	James Stewart.
Granton, Ontario	28.86	733.0	29.02	760.0	68	20.0	100	SW	.....	.....	2	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.96	761.0	30.08	764.0	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.61	752.1	29.95	760.7	73.3	22.9	80	W	.....	.....	3	6ck	0	W	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	E. Weedon.
*Kingston, Ontario	29.66	753.1	29.97	761.2	70	21.1	81	S	7	3.1	.....	5ck	2ks	SW	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.98	761.5	30.02	762.5	68.4	20.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	J. R. Nason
*Montreal, Quebec	29.76	755.9	29.95	760.7	65	18.3	69	SW	11	4.9	.....	.....	8ks	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.21	741.9	29.85	758.9	67	19.4	89	S	8	3.6	.....	5k	5ks	SW	SW	0.05	1 3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.94	760.5	68.7	20.4	85	S	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	29.96	761.0	71	21.7	95	SW	8	3.6	.....	10ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.00	762.0	62.5	16.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.96	761.0	71	21.7	87	SW	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.69	754.1	30.00	762.0	59	15.0	88	NW	.....	.....	1	.....	10n	.....	NW	Inap.	Inap.	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.44	747.8	29.88	758.9	64	17.8	92	SE	3	1.3	.....	0	5s	.....	S	0.42	10.7	Fair	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.04	763.0	60	15.6	87	Calm	.....	.....	0	Haze	Haze	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.89	759.2	30.06	763.5	57	13.9	94	S	8	3.6	.....	.....	Fog	.....	.....	0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	66	18.9	94	S	15	6.7	.....	.....	10ks	.....	S	0.07	1.8	Light rain	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	C. J. MacGregor, M. A.
*Sydney, C. B	29.99	761.7	30.03	762.7	68	20.0	72	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.95	760.7	68	20.0	90	SW	5	2.2	.....	.....	10ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.04	763.0	71.5	21.9	67	W	4	1.8	.....	0	5ks	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	29.99	761.7	63.0	17.2	78	SW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.85	758.2	30.07	763.8	69	20.6	75	S	6	2.7	.....	Haze	Sm'e	.....	.....	0	0	Hazy	
Alpena, Michigan	29.21	741.9	29.83	757.7	65	18.3	89	S	12	5.4	.....	.....	10s	.....	S	0.20	5.1	Threatening	
Aicha, Aleutian Is., Alaska	.....	.....	.....	.....	42	5.6	100	SE	5	2.2	.....	10ck	0	W	.....	0	0	Cloudy	
Atlanta, Georgia	28.98	736.1	30.10	764.5	65	18.3	83	E	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.17	766.3	71	21.7	75	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.96	761.0	30.16	766.1	71	21.7	71	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.11	764.8	30.16	766.1	68	20.0	74	S	2	0.9	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	74	23.3	72	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Bismarck, Dakota	28.20	716.3	30.05	763.3	44	6.7	92	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Boerne, Texas	28.57	725.7	29.85	758.2	70	21.1	75	N	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Boise City, Idaho	27.07	687.6	30.03	762.7	64	17.8	53	N	8	3.6	.....	2k	Sm'e	Calm	Calm	0	0	Fair	
Boston, Massachusetts	29.93	760 2	30.08	764.0	72	22.2	71	SW	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.58	733.5	29.88	758.9	71	21.7	85	E	1	0.4	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	58	14.4	88	NW	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy	
Brownsville, Texas	29.86	758.4	29.90	759.4	76	24.4	95	N	1	0.4	.....	.....	Fog	.....	Calm	1.83	46.5	Foggy	
Buffalo, New York	29.28	743.7	29.94	760.5	73	22.8	59	SW	8	3.6	.....	9cs	Haze	W	Calm	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	73	22.5	43	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.72	754.9	30.00	762.0	68	20.0	60	S	7	3.1	.....	8ck	2ks	SW	SW	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.70	754.4	30.07	763.8	73	22.8	81	S	3	1.3	.....	8ck	0	SW	.....	0	0	Fair	
Campo, California	27.33	694.2	29.90	759 4	53	11.7	67	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	76	24.4	82	NE	8	3.6	.....	10cs	0	Calm	.....	0	0	Cloudy	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	74	23.3	68	E	5	2.2	.....	2c	5ks	W	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.12	765.0	30.13	765.3	75	23.9	77	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Threatening	
Cape May, New Jersey	30.13	765.3	30.16	766.1	70	21.1	75	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.22	742.2	29.91	759.7	72	22.2	80	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Charleston, South Carolina	30.03	762.7	30.08	764.0	75	23.9	81	NE	8	3.6	.....	0	8s	.....	NE	0	0	Cloudy	
Charlotte, North Carolina	29.30	744.2	30.10	764.5	68	20.0	74	NE	4	1.8	.....	5c	Haze	Calm	Calm	0	0	Hazy	
Chattanooga, Tennessee	29.35	745.5	30.14	765.5	64	17.8	89	Calm	0	0	.....	8ck	Sm'e	SW	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	55	12.8	87	W	4	1.8	.....	8ck	0	NW	.....	0.06	1.5	Cloudy	
Chicago, Illinois	29.22	742.2	29.88	758.9	67	19.4	84	S	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Cincinnati, Ohio	29.41	747.0	30.04	763.0	72	22.2	67	S	5	2.2	.....	5k	0	SW	.....	0	0	Fair	
Cleveland, Ohio	29.28	743.7	29.98	761.5	68	20.0	65	S	7	3.1	.....	5k	Fog	SW	Calm	0	0	Fair	
Coleman City, Texas	28.23	717.0	29.84	757.9	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.20	741.7	30.01	762.2	67	19.4	74	S	5	2.2	.....	10k	Haze	S	Calm	0	0	Cloudy	
Concho, Texas	28.10	713.7	29.73	755.1	64	17.8	74	S	3	1.3	.....	0	8s	.....	S	0	0	Fair	
Corsicana, Texas	29.56	750.8	30.02	762.5	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.27	743.4	29.88	758.9	69	20.6	90	W	6	2.7	.....	.....	10s	.....	W	0.18	4.6	Cloudy	
Deadwood, Dakota	25.42	645.7	.....	.....	53	11.7	67	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.56	733.0	29.98	761.5	70	21.1	85	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.22	742.2	29.99	761.7	69	20.6	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.81	630.2	30.03	762.7	57	13.9	87	S	4	1.8	.....	2ck	0	NW	.....	0.03	0.8	Fair	
Des Moines, Iowa	29.06	738.1	29.92	760.0	62	16.7	88	N	2	0.9	.....	.....	10r	.....	Calm	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.28	743.7	29.92	760.0	67	19.4	74	SW	4	1.8	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Dodge City, Kansas	27.36	694.9	29.54	750.3	68	20.0	79	N	4	1.8	.....	.....	8ks	.....	W	0	0	Cloudy	
Dubuque, Iowa	29.22	741.2	29.89	759.2	63	17.2	72	NW	6	2.7	.....	.....	10s	.....	Calm	0.37	9.4	Cloudy	
Duluth, Minnesota	29.10	739.1	29.75	755.6	62	16.7	88	SW	2	0.9	.....	.....	8s	.....	SW	0.04	1.0	Cloudy	
Eagle Pass, Texas	29.22	742.2	29.93	760.2	72	22.2	90	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	29.98	761.5	30.04	763.0	62	16.7	77	S	8	3.6	.....	2ck	Haze	SW	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	10s	.....	Calm	0.07	1.8	Cloudy	
El Paso, Texas	26.24	666.5	.....	.....	56	13.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.30	744.2	29.98	761.5	72	22.2	58	S	8	3.6	.....	8c	Haze	W	Calm	0	0	Fair	
Escanaba, Michigan	29.16	740.7	29.79	756.7	58	14.4	82	W	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.87	720.6	29.97	761.2	75	23.9	56	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.92	709.2	29.72	754.9	54	12.2	93	SE	7	3.1	.....	8cs	Sm'e	Calm	Calm	0	0	Cloudy	
Fort Davis, Texas	25.25	641.3	30.21	767.3	61	16.1	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.98	761.5	70	21.1	85	E	2	0.9	.....	Haze	0	Calm	.....	0	0	Hazy	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	70	21.1	32	NE	8	3.6	.....	0	Haze	.....	Calm	0	0	Hazy	
Fort Griffin, Texas	28.76	730.5	30.00	762.0	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.36	694.9	.....	.....	61	16.1	82	Calm	0	0	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.79	705.8	29.64	752.8	70	21.1	85	SW	4	1.8	.....	0	5s	.....	SW	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.84	757.9	69	20.6	75	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Fort Stevenson, Dakota	28.15	715.0	.....	.....	55	12.8	87	E	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort Verde, Arizona	.....	.....	.....	.....	67	19.4	42	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.12	714.2	29.61	752.1	72	22.2	76	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.96	761.0	30.00	762.0	73	22.8	100	NW	4	1.8	.....	.....	10s	.....	Calm	3.02	76.7	Cloudy	
Graham, Texas	28.93	734.8	29.95	760.7	69	20.6	95	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.24	742.7	29.87	758.7	66	18.9	89	S	9	4.0	.....	.....	10s	.....	Calm	1.00	25.4	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.04	737.6	29.94	760.5	68	20.0	79	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.22	742.2	29.96	761.0	69	20.6	75	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Indianola, Texas	29.97	761.2	30.00	762.0	73	22.8	90	NE	9	4.0	.....	8cs	2s	SW	NE	1.68	42.7	Cloudy	
Jacksboro, Texas	28.88	733.5	29.96	761.0	72	22.2	80	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.10	764.5	75	23.9	77	W	4	1.8	.....	5k	0	N	.....	0	0	Fair	
Keokuk, Iowa	29.28	743.7	29.86	758.4	71	21.7	85	W	4	1.8	.....	0	5ks	.....	W	0.01	0.3	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	86	30.0	72	SE	8	3.6	.....	2k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.07	763.8	30.09	764.3	73	22.8	85	NE	10	4.5	.....	5cs	2s	SW	NW	0	0	Fair	
Knoxville, Tennessee	29.16	740.7	30.14	765.5	66	18.9	84	S	1	0.4	.....	5k	5ks	S	S	0	0	Foggy	
La Crosse, Wisconsin	29.16	740.7	29.87	758.7	59	15.0	88	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	52	11.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.56	750.8	29.89	759.2	72	22.2	90	NE	8	3.6	.....	.....	10s	.....	Calm	2.35	59.7	Cloudy	
Leavenworth, Kansas	29.08	738.6	29.88	758.9	71	21.7	75	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Little Rock, Arkansas	29.74	755.4	30.09	764.8	68	20.0	90	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.49	749.0	29.82	757.4	65.0	18.3	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.49	749.0	30.03	762.7	72	22.2	62	NE	5	2.2	.....	2k	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.49	749.0	30.15	765.8	66	18.9	79	S	1	0.4	.....	8c	Fog	W	S	0	0	Foggy	
Madison, Wisconsin	29.89	733.8	29.84	757.9	63	17.2	89	W	10	4.5	.....	.....	10s	.....	W	0.15	3.8	Cloudy	
Marquette, Michigan	29.07	738.4	29.74	755.4	60	15.6	82	W	8	3.6	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Mason, Texas	28.39	721.1	30.11	764.8	66	18.9	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.75	755.6	30.08	764.0	71	21.7	90	SE	6	2.7	.....	5ck	5s	SW	S	0	0	Cloudy	
Milwaukee, Wisconsin	29.13	739.9	29.82	757.4	65	18.3	89	SW	8	3.6	.....	.....	10s	.....	SW	1.29	32.8	Cloudy	
Mobile, Alabama	30.02	762.5	30.07	763.8	76	24.4	93	NE	5	2.2	.....	.....	10s	.....	W	0.08	2.0	Cloudy	
Montgomery, Alabama	29.90	759.4	30.12	765.0	72	22.2	80	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.11	739.4	30.07	763.8	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.97	608.8	30.33	770.4	47	8.3	77	NW	30	13.4	.....	8c	Sm'e	NW	Calm	0	0	Cloudy.....	
Nashville, Tennessee	29.57	751.1	30.10	764.5	68	20.0	84	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy	
New Haven, Connecticut	30.00	762.0	30.11	764.8	74	23.3	68	SW	4	1.8	.....	2ck	Haze	Calm	Calm	0	0	Hazy	
New London, Connecticut	30.07	763.8	30.12	765.0	75	23.9	81	SW	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	80	26.7	82	E	6	2.7	.....	.....	10s	.....	Calm	0.45	11.4	Cloudy.....	
Newport, Rhode Island	30.07	763.8	30.12	765.0	70	21.1	80	SW	10	4.5	.....	1c	Haze	Calm	.....	0	0	Hazy	
New York, New York	29.97	761.2	30.14	765.5	67	19.4	79	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.10	764.5	30.16	766.1	73	22.8	76	SE	1	0.4	.....	5c	0	W	.....	0	0	Fair	
North Platte, Nebraska	27.08	687.8	29.57	751.1	60	15.6	91	E	6	2.7	.....	2c	Fog	Calm	Calm	0	0	Fair.....	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	51.0	10.6	93	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.82	732.0	29.88	758.9	63	17.2	88	N	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Oswego, New York	29.69	754.1	30.00	762.0	70	21.1	70	S	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy.....	
Pembina, Dakota	29.06	738.1	29.87	758.7	57	13.9	94	NW	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Philadelphia, Pa	30.10	764.5	30.15	765.8	66	18.9	84	SW	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Phœnix, Arizona	28.65	727.7	30.34	770.6	78	25.6	39	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.98	456.7	30.19	766.8	33	0.6	79	NW	10	4.5	.....	5k	0	NW	.....	0.60	15.2	Fair	
Pilot Point, Texas	29.25	742.9	30.06	763.5	70	21.1	66	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	.....	.....	.....	.....	62	16.7	46	S	4	1.8	.....	2k	2s	S	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.28	743.7	30.07	763.8	62	16.7	83	NW	1	0.4	.....	7ck	Fog	W	Calm	0	0	Fair.....	
Port Huron, Michigan	29.26	743.2	29.90	759.4	68	20.0	74	S	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Portland, Maine	30.00	762.0	30.05	763.3	65	18.3	84	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear.	
Portland, Oregon	29.92	760.0	30.00	762.0	56.0	13.3	87	E	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.77	629.2	30.13	765.3	64	17.8	48	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	81	27.2	83	NE	9	4.0	.....	5cc	0	SW	.....	0.55	14.0	Fair	
Red Bluff, California	29.41	747.0	29.75	755.6	70	21.1	40	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.77	756.1	29.98	761.5	73	22.8	95	N	5	2.2	.....	.....	10s	.....	N	0.37	9.4	Cloudy	
Rochester, New York	29.39	746.5	29.98	761.5	71	21.7	58	SW	10	4.5	.....	5k	0	SW	.....	0	0	Fair.....	
Roseburg, Oregon	29.40	746.7	29.96	761.0	56	13.3	81	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Sacramento, California	29.68	753.9	29.76	755.9	58	14.4	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.42	747.3	29.98	761.5	69	20.6	70	SW	8	3.6	.....	2ck	Sm'e	SW	.....	0	0	Fair	
St. Marks, Florida	30.08	764.0	30.10	764.5	74	23.3	81	E	5	2.2	.....	2c;cs	0	Calm	.....	0	0	Fair	
St. Paul, Minnesota	29.02	737.1	29.82	757.4	59	15.0	87	SW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Salt Lake City, Utah	25.66	651.5	29.98	761.5	65	18.3	40	N	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
San Antonio, Texas	29.93	745.0	29.90	759.4	73	22.6	81	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Clouqy.....	
San Diego, California	29.76	755.9	29.83	757.7	66	18.9	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.33	745.0	29.98	761.5	69	20.6	65	W	5	2.2	.....	5k	5s	Calm	Calm	Inap.	Inap.	Cloudy.....	
Sandy Hook, New Jersey	30.11	764.8	30.14	765.5	73	22.8	67	SW	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear.....	
San Francisco, California	29.77	756.1	29.84	757.9	55	12.8	87	SW	8	3.6	.....	.....	Fog	.....	SW	0	0	Foggy.....	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	56	13.3	60	S	4	1.8	.....	0	8n	.....	SE	Inap	Inap.	Light rain...	
Savannah, Georgia	30.01	762.2	30.10	764.5	78	22.8	85	N	6	2.7	.....	1c	Haze	SW	Calm	Inap	Inap.	Clear	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	70	21.1	90	S	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.10	764.5	30.14	765.5	72	22.2	100	N	6	2.7	.....	.....	10s	.....	N	0.17	4.3	Cloudy.....	
Socorro, New Mexico	25.42	645.7	29.48	748.8	65	18.3	40	S	2	0.9	.....	0	1s	.....	Calm	0	0	Clear.....	
Springfield, Ill	29.32	744.7	29.96	761.0	73	22.8	72	S	5	2.2	.....	.....	10n	.....	Calm	1.97	50.0	Light rain...	
Springfield, Massachusetts	29.98	761.5	30.10	764.5	67	19.4	89	S	1	0.4	.....	0	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	29.98	685.3	25.98	761.5	65	18.3	31	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.05	763.3	30.10	764.5	66	18.9	95	SW	9	4.0	.....	0	Sm'e	.....	.....	0	0	Clear.	
Toledo, Ohio	29.28	743.7	29.94	760.5	67	19.4	74	W	5	2.2	.....	.....	10s;sme	.....	W	0	0	Threatening	
Tucson, Arizona	27.45	697.2	30.00	762.0	74	23.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.61	749.5	29.98	761.5	69.0	20.6	63	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.09	738.9	29.88	758.9	72	22.2	80	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.84	757.9	30.10	764.5	70	21.1	95	SE	4	1.8	.....	.....	10n	.....	Calm	0.14	3.6	Light rain...	
Virginia City, Montana	24.33	618.0	29.81	757.2	54	12.2	55	SE	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Visalia, California	29.38	746.2	29.74	755.4	66.5	19.2	59	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	30.03	762.7	30.14	765.5	69	20.6	75	S	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.03	762.7	30.11	764.8	71	21.7	90	NE	3	1.3	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	59	15.0	43	SW	4	1.8	.....	0	1s	.....	Calm	0.01	0.3	Clear.	
Wood's Holl, Mass.	30.07	763.8	30.10	764.5	70	21.1	75	W	14	6.3	.....	Haze	Haze	.....	.....	0	0	Dense haze..	
Yankton, Dakota	28.72	729.5	30.01	762.2	52	11.1	73	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Dense haze.	
Yuma, Arizona	29.62	752.3	29.78	756.4	80	26.7	59	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	83	28.3	74	SE	1.2	0.5	.....	8c	0	Calm	.....	0.66	16.8	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	81	27.2	85	N	.....	.....	.....	5c	5s	Calm	.....	0.55	14.0	Fine.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.22	640.6	.....	.....	67.5	19.7	83	Calm	.....	.....	0	3ck	2ks	.....	.....	0.11	2.8	.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair...	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	82	27.8	79	SE	.....	.....	2	0	4k	.....	.....	0	0	Clear.....	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	29.63	752.6	29.64	752.8	83	28.3	79	NE	11	4.9	.....	2c	2ks	E	.....	0	0	Clear.....	Robert Mason.
York Factory, B. A.	29.94	760.5	29.99	761.7	40.0	4.4	96	NE	10	4.5	.....	0	0	.....	.....	0.30	7.6	Clear.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,922 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,855 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Ph enix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,898 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, or 103.2 mm.; Fort Davis, 4.96, in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.36‡	770.9‡	.....	.....	81	27.2	87	NE	4	1.8	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.68‡	753.9‡	.....	.....	79.5	26.4	86	SW	.....	.....	2	.....	2k	.....	W	0	0	.....	.....	Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.81‡	757.2‡	.....	.....	55	12.8	100	SW	.....	.....	4	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, N. 36° 07′, W. 122° 31′...*	29.91‡	759.7‡	.....	.....	56	13.3	94	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Mod'te	SE	Misty	
Alliance, Stockholm, Sweden	29.94‡	760.5‡	.....	.....	68	20.0	74	N	.....	.....	2	.....	4	.....	N	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.63‡	752.6‡	.....	.....	80	26.7	91	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado. New York, N. Y.	30.12‡	765.0‡	.....	.....	69	20.6	75	SSW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Misty	
Constellation, Off Bristol, R. I.	30.09‡	764.3‡	.....	.....	69.5	20.8	77	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.16‡	766.1‡	.....	.....	69	20.6	85	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, N. 50° 56′, E. 1° 03′	29.89‡	759.2‡	.....	.....	66	18.9	84	SE	.....	.....	2	.....	4	.....	E	.....	.....	Smooth	.....	Clear	
Essex, Rio de Janeiro, Brazil	30.11‡	764.8‡	.....	.....	67	19.4	95	NW	.....	.....	3	.....	1	.....	NW	.....	.....	Smooth	.....	Clear	
Franklin. Norfolk, Va.	30.19‡	766.8‡	.....	.....	73	22.8	76	E	1	0.4	.....	.....	8	.....	W	0	0	.....	.....	Fair	
Hartford. Rio de Janeiro, Brazil	30.14‡	765.6‡	.....	.....	69	20.6	61	N	2	0.9	.....	.....	8	.....	N	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.81‡	757.2‡	.....	.....	59	15.0	88	SSW	6.0	2.7	.....	.....	5?	.....	SW	0	0	.....	.....	Cloudy?	
Kearsarge, Pictou, Nova Scotia	30.03‡	762.7‡	.....	.....	65	18.3	68	WSW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Michigan, Chicago, Ill.	29.90‡	759.4‡	.....	.....	65	18.3	97	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Monocacy. Shanghai, China	29.76‡	755.9‡	.....	.....	86	31.1	84	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, N. 34° 56′, E. 140° 30′	29.66‡	753.4‡	.....	.....	81	27.2	83	S	.....	.....	4–5	.....	k	.....	.....	0	0	Very light	S	D. clouds	
New Hampshire. Port Royal, S. C.	30.08‡	764.0‡	.....	.....	74	23.3	90	NNE	12	5.4	.....	.....	2	.....	E	0	0	.....	.....	Fair	
Onward, Callao, Peru.†	29.97‡	761.2‡	.....	.....	62	16.7	77	W	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.77‡	756.1‡	.....	.....	85	29.4	97	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	68	20.0	84	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	59	15.0	94	N	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Portland, Maine	30.06‡	763.5‡	.....	.....	60	15.6	94	S	.....	.....	1	.....	5	.....	Calm	0	0	Smooth	.....	Foggy	
Powhatan, N. 28° 28′, W 85° 58′	30.04‡	763.0‡	.....	.....	84	28.9	68	NE	.....	.....	4	.....	2	.....	Calm	0.10	2.5	Mod'ate	NE	Fair	
Quinnebaug, Trieste, Austria	29.86‡	758.4‡	.....	.....	81	27.2	59	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Nagasaki, Japan.§	30.04‡	763.0‡	.....	.....	85	29.4	87	WSW	.....	.....	2–3	.....	8?	.....	Calm	.....	.....	Smooth	.....	Clear?	
Richmond, Yokohama, Japan	29.63‡	752.6‡	.....	.....	81	27.2	91	SSW	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡	.....	.....	76	24.4	??	NNW	.....	.....	1	.....	10	.....	Calm	4.29	109.0	.....	.....	Foggy	
Santee, Annapolis, Md.	30.16‡	766.1‡	.....	.....	70	21.1	75	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Hazy	
Saratoga, New Bedford, Mass.	30.13‡	765.3‡	.....	.....	70	21.1	100	WSW	.....	.....	4	.....	8	.....	Calm	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.15‡	765.8‡	.....	.....	67	19.4	95	SW	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gravesend, Eng.	29.84‡	757.9‡	.....	.....	72	22.2	68	S	.....	.....	2–3	.....	5	.....	.....	0	0	Smooth	.....	Squally	
Tuscarora, Mare Isl. Navy Yard, Cal	29.82‡	757.4‡	.....	.....	55	12.8	93	SSW	.....	.....	5	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 25° 27′, W. 80° 09′	30.05‡	763.3‡	.....	.....	83	28.3	87	ESE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.09‡	764.3‡	.....	.....	67	19.4	74	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 28° 50′, W. 79° 40′	30.09‡	764.3‡	.....	.....	82	27.8	79	WNW	.....	.....	2	.....	2	.....	NE	.....	.....	Mod'ate	NE	Fair	
Wyoming, Sinope, Black Sea	29.80‡	756.9‡	.....	.....	73	22.8	72	ESE	.....	.....	1	.....	10	.....	ESE	.....	.....	Smooth	ESE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity

†Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 15° 42′, W. 98° 10′		29.92‡	760.0‡	79	26.1	91	E			3		10		E	0.95 in. or 24.1mm	Heavy ground	ESE	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.77‡	756.1‡				SW			2				SW				Cloudy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 22° 23′, E. 115° 50′		29.89‡	759.2‡	81	27.2	96	SW			4		2k			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 35° 04′, E. 140° 41′		29.62‡	752.3‡	81	27.2	83	S			4		5		ESE		2	S	D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 43° 31′, W. 52° 30′		30.14‡	765.5‡				WNW			2		5?		NW		3	WSW	Cloudy?	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Queenestown, Ireland		29.67‡	753.6‡	60	15 6	76	SE			5		8		NW	Mod'ate	Smooth		Cloudy.	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller.																			Capt. James Jorgensen
Schooner Charley Buck.																			W. H. Champlin.
Brigantine "George of Halifax",																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 36° 49′, W. 16° 45′.		30.11‡	764.8‡	71	21.7	85	W			2		5				4	NW	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith.																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

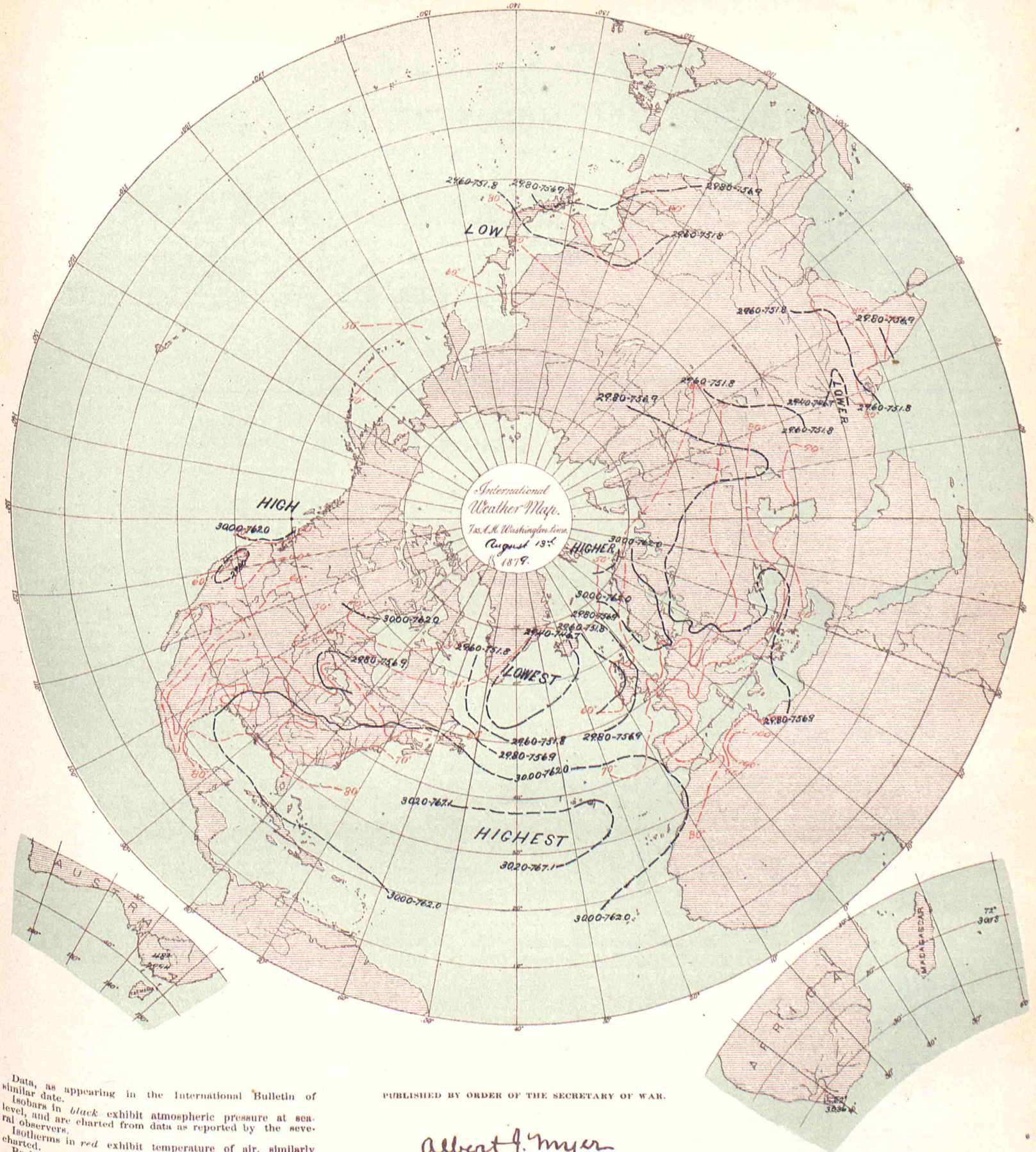
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.96	761.0	70.0	21.1	82	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.98	761.4	81.5	27.5	74	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.92	760.0	80.6	27.0	77	NNE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Tourillere.
La Calle	.....	.....	29.89	759.1	85.6	29.8	78	E	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	762.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.90	759.4	80.2	26.8	30	NNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Herbin.
Geriville	.....	.....	29.93	760.3	97.5	36.4	33	W	.....	.....	3	.....	2	.....	.....	0.087	2.2	Fair	Watrin.
Laghouat	.....	.....	.....	.....	75 7	24.3	39	NNW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Brugniaux.
Biskra	.....	.....	29.84	758.0	102.2	39.0	22	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	29.85	758.1	104.0	40.0	25	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.41	747.1	29.93	760.3	81.0	27.2	44	NE	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.26	743.1	30.00	762.1	66.9	19.4	64	NNW	6.9	3.1	.....	.....	6	.....	.....	0.020	0.5	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.03	737.3	29.87	758.8	70.5	21.4	53	NW	.....	.....	3	.....	8ks	.....	SE	0.026	0.63	.....	Julius Mikolik.
Gratz	28.76	730.6	29.97	761.1	73.9	23.3	63	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.43	722.0	29.80	757.0	68.7	20.4	50	N	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.71	729.1	29.99	761.8	73.8	23.2	73	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.84	732.4	29.79	756.7	64.4	18.0	63	SW	.....	.....	1	.....	10	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	29.85	758.2	29.95	760.8	84.4	29.1	46	W	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.41	746.9	29.62	757.8	71.6	22.0	46	NW	.....	.....	6	.....	6	.....	.....	0	0	.....	G. Sanctjohanser.
Szegedin	29.62	752.4	29.89	759.2	73.4	23.0	58	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.86	758.4	29.96	761.0	82.8	28.2	58	W	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.32	744.8	30.05	763.3	69.8	21.0	64	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	I. R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.92	760.0	30.02	762.5	63.6	17.6	.....	S	14	6.3	.....	.....	4	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.04	763 0	30.06	763.5	60	15.6	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Wm.McNeil &G.Carrick
Armagh, Observatory	29.86	758.4	30.09	764.3	66.1	18.9	.....	SW	2	0.9	.....	.....	4	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	62.2	16.8	.....	WNW	9	4.0	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	.....	.....	30.05	763.3	67.9	19.9	.....	NW	6	2.7	.....	.....	4	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.65	753.1	30.05	763.3	62.1	16.7	.....	NW	.....	.....	3	.....	4	.....	.....	0.10	2.5	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84	28.9	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.95	760.7	30.04	763.0	72.5	22.5	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	30.04	763.0	73.0	22.8	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.91	759.7	30.03	762.7	74.2	23.4	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R. E.
Donaghadee	30.04	763.0	30.08	764.0	61	16.1	.....	SSE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.02	762.5	30.06	763.3	70	21.1	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.86	758.4	30.08	764.0	65.1	18.4	.....	NW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier (Natal)	27.77	705.4	30.06	763.5	68.4	20.2	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	84	28.9	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.01	762.2	65	18.3	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.86	758.4	29.91	759.7	84.5	29.2	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.85	758.2	30.06	763.5	63.1	17.3	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.01	762.2	30.02	762.5	67	19.4	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.87	758.7	30.04	763.0	71.8	22.1	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.08	764.0	66	18.9	.....	SSE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	30.12	765.0	30.24	768.1	67	19.4	.....	N	.....	.....	2	1c	.....	.....	.....	0	0	Very fine....	M. P. Moyle.
Holyhead	30.12	765.0	30.12	765.0	60	15.6	.....	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.82	757.4	30.11	764.8	64.8	18.2	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	70.5	21.4	.....	NW	5	2.2	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.81	757.2	30.06	763.5	64.8	18.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.93	760.2	83.4	28.6	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.90	759.4	29.98	761.5	67	19.4	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.99	761.7	83.0	28.3	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.88	758.9	30.06	763.5	70.0	21.1	.....	SW	.....	.....	1	.....	10k;ks	.....	SW	0.001	0.03	Overcast....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.54	750.3	30.05	763.3	65.0	18.3	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.06	763.5	67	19.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast....	H. E. Bellamy.
Plymouth	29.98	761.5	30.06	763.5	64.8	18.2	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.03	762.7	30.56	766.1	63	17.2	.....	S	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded...	Wm. Kennedy.
Saint Ann's Head	29.92	760.0	30.08	764.0	60	15.6	.....	WNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	30.03	762.7	59.2	15.1	.....	W	10	4.5	.....	.....	10	.....	.....	0	0	Overcast....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.66	753.4	29.72	754.9	90.2	32.3	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't, W. H. Lyne.
Sheffield	29.79	756.7	30.06	763.5	69.2	20.7	.....	W	.....	.....	1	.....	7	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	30.05	763.3	30.08	764.0	65.9	18.8	79	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.07	763.8	65.2	18.4	.....	WSW	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	68.8	20.4	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.09	764.3	30.10	764.5	70	21.1	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	30.03	762.7	30.06	763.5	58.7	14.8	.....	S	16	7.2	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
SUB-SERIES.																			
Cape of Good Hope Obs'y	30.11	764.8	30.15	765.8	61.0	16.1	.....	SSE	12.4	5.5	.....	4	4	.....	.....	0	0	Cloudy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.07	763.8	62.0	16.7	.....	W	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.4	71.0	21.7	69	SE	12.0	5.4	.....	2	7	.....	ESE	0.03	0.8	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.76	755.9	29.85	758.2	47.0	8.3	78	NNE	10	4.5	.....	.....	2	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	25.90	657.8	.....	.....	69.5	20.8	.....	W	.....	.....	.....	0	2cs	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
d. M. S. "Fawn," N. 40° 55′, E. 28° 55′	.....	.....	29.77‡	756.1‡	75.8	24.3	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Misty.....	Capt. W. J. L. Wharton.
Algeria, N. 40° 40′, W. 69° 10′	.....	.....	29.94	760.5	65	18.3	.....	SW	.....	.....	2	.....	8	.....	W	2	.....	D. clouds....	Capt. Wm. Watson.
Atmosphere, N. 50° 20′ W. 2° 40′	.....	.....	30.07	763.8	63	17.2	.....	S	.....	.....	1	.....	6	.....	.....	3	WSW	Misty.....	.....
Barque Commewyne, N. 50° 35′, W. 9° 45′	.....	.....	30.06‡	763.5‡	61.5	16.4	.....	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. A. Buchan.
German Brig "W. von Freeden" N. 41° 15′, W. 49° 40′	.....	.....	30.20	767.1	70	21.1	.....	SE	.....	.....	4	.....	10	.....	NW	1	NW	Overcast....	Capt. H. v. Freeden.
Theophane, N. 39° 10′, W. 35° 35′	.....	.....	30.28‡	769.1‡	80.3	26.8	.....	E	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
San José	26.21	665.7	29.93	760.2	67.6	19.8	91	NE			1	10s				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.05	763.3	30.10	764.5	70.5	21.4	73	SSE			2		2						
Fanöe	30.08	764.1	30.10	764.6	73.8	23.2	78	SW			2		5						
Godthaab (Greenland)	29.35	745.4	29.39	746.5	41.7	5.4	92	SSW			2		10					Foggy	
Stykkisholm (Iceland)	29.38	746.3	29.43	747.4	54.7	12.6	85	S			4		8					Raining	
Thorshavn (Farôe)	29.84	757.9	29.87	758.8	54.3	12.4	97	SW			2		10						
Vestervig	30.00	762.1	30.11	764.9	72.9	22.7	72	Calm			0		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.4	30.02	762.4	73.0	22.8	64	NE			1		2kn		N	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.93	760.3	30.04	763.0	75.2	24	67	NW			1		5		NE	0	0	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.79	756.6	30.04	763.0	70.9	21.6	69	NW			1				SW	0	0		Klein, Commandant.
Avignon, Normal School	29.87	758.6	29.95	760.6	93.2	34	37	SSW			2		5			0	0	⅛ covered	Giraud, Director.
Bar-sur-Seine	29.45	748.0	29.99	761.8	69.3	20.7	78	SE			1		10					Sprinkling	C. Saillard, Director.
Beauvais, Normal School	29.80	757.0	30.06	763.5	72.7	22.6	69	N			1		10			0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.14	740.2	30.00	761.9	78.4	25.8	68	NE			1		8	NE		0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.10	739.2	30.04	763.0	83.3	25.8	67	N			1		10n	N	N	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.46	748.2	29.99	761.7	74.3	23.5	83	NNE			1		ck	NW	NNE	0.020	0.5		M. Gence, Director.
Brest, Naval Observatory	29.80	756.8	30.04	763.0	66.6	19.2	79	WNW			1		10		NW	0.030	0.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.63	752.5	30.02	762.6	77.4	25.2	62	W			2		8	NNW	NNW	0	0	Very cloudy	September, Dir.
Caen, Normal School	29.95	760.7	30.02	762.4	69.8	21	65	N			1		2		N	0	0	Slightly cl'dy	M. Bietrin, Director.
Chartres, Normal School	29.55	750.6	30.11	764.8	70.7	21.5	92	NE			1		6		NE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.71	754.6	30.02	762.4	73.6	23.1	58	NNE			1		10					Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.8	29.98	761.6	77.0	25.0	62	N			1		8			0.012	0.3		Allnard, Director.
Commercy, Normal School	29.20	741.6	30.01	762.2	76.6	24.8	67	E			1		10	E	E	0	0	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.90	734.0	30.04	763.0	85.1	29.5	49	S			1		8		S	0	0		L. Kina, Director.
Grenoble, Normal School	29.21	741.9	29.93	760.3	82.2	27.9	59	NE			1		8			0	0	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.87	758.6	30.07	763.8	77.5	25.3	63	NW			2		5		NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.78	756.3	30.08	763.9	73.4	23	68	N			1		0			0.010	0.25	Clear	Poirrier, Director
Leus-Le-Saulnier, N.School	29.13	739.8	30.00	762.1	82.4	28	80	W			1		ck	W	W	0	0		A. Baudry, Director.
Lorient, Naval Observatory	30.01	762.3	30.11	764.9	70.5	21.4	78	S			1				S	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	746.0	29.95	760.8	83.5	28.8	62	N			1		k	W	N	0	0		Ch. André, Director.
Mâcon, Normal School																			Galvin. Director.
Marseilles, Observatory	29.68	753.9	29.94	760.5	77.7	25.4	76	W			1		10			0	0	Covered	E. Stephan, Director
Mirecourt, Normal School	28.98	736.0	29.97	761.2	76.6	24.8	61	N			1		10cn	SW	SW			Covered	Barbier, Director.
Mont-Louis	25.60	650.1	30.32	770.1	65.3	18.5	62	SW	18.6	8.3						0	0		G. Cave.
Nice	29.94	760.4	29.97	761.2	81.5	27.5	71	W			2		2	W	W	0	0	Slightly cl'dy	M. Boissieré, Director.
Nismes, Normal School	29.69	754.1	29.87	758.8	97.5	36.4	48	S			1		2			0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.78	756.5	69.6	20.9	70	Calm					10		NW	0.110	2.8		Marie Davy, Director.
Pic du Midi (Summit) H. P.											2								M. Baylac.
Pic du Midi (Plantade) H. P.	22.67	575.8			45.1	7.3		SSE			3		10		SSE	0.268	6.8	Threatening	Gen'l de Nansouty.
Perpignan	29.88	759.0	29.98	761.6	80.6	27.0	54	N	5.6	2.5			9		SE	0	0	Smoky	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs.	25.34	643.5			58.5	14.7	82	N			2		8			0	0		Allnard, Director.
Rochefort, Naval Obs'y	30.03	762.7	30.06	763.5	80.1	26.7	69	NW			1		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.97	761.1	30.05	763.2	78.8	26.0	55	NNW			1		0			0.016	0.4	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.03	762.7	30.06	763.5	72.3	22.4	66	NNE			3		1		N	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.2	30.06	763.5	69.1	20.6	55	NNW			1		10		SW	0.350	8.9		E. Renou, Director.
Tarbes, Normal School	28.92	734.6	29.97	761.2	69.8	21	80	W			1		10			0.20	5.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.38	746.2	30.10	764.6	75.6	24.2	66	NW			3		8			0	0		M. Juller Mercadier.
Tours	29.84	758.0	30.04	763.0	78.4	25.8	58	E			1		1		N	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.60	751.7	30.09	764.2	71.2	21.8	74	N			1					0.015	0.37		Dr. A. Bertin, Director.
Villefranche-sur-Saone, N.S.	29.34	745.3	30.01	762.8	86.0	30	65	N			2		2		S	0.04	1.	Slightly cl'dy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	75.6	24.2										0.79	20.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.76	756.0	29.79	756 6	82.8	28.2	92	SSE	2.7	1.2			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,636.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.22	742.1	30.07	763.6	73.0	22.8	47	Calm			0		2			0	0		Prof. Dr. Hoh.
Berlin	29.95	760.6	30.11	764.8	73.9	23.3	54	N			2		5			0	0		Prof. Dr. Arndt.
Breslau	29.56	750.9	30.10	764.4	68.4	20.2	57	NW			2		4			0	0		Royal University Ob's'y.
Carlsruhe	29.59	751.5	29.99	761.8	79.3	26.3	51	NE			2		9	SW		0	0		Albert Sens.
Cassel	29.51	749.6	30.12	765.1	76.6	24.8	52	E			2		4	E		0	0		Dr. H. Möhl.
Crefeld	29.88	758.9	30.04	763.0	79.7	26.5	47	SE			2		9			0	0		Director Lose.
Emden			30.02	762.5	77.2	25.1	58	SE			1		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.69	754.1	30.05	763.2	78.6	25.9		ESE			2		6			0	0		Physical Society.
Freienwalde on the Oder	30.07	763.6	30.10	764.6	76.5	24.7	57	N NE			3		5k	NE		0	0		Dr. Assmann.
Friedrichshafen	28.60	726.5	29.98	761.6	72.0	22.2	73	SW			3		4	SW		0	0		M. Wilhelm.
Hamburg	30.04	763.1	30.11	764.8	75.2	24.0	60	SE			4		5k			0	0	Fair	Captain F. Hegemann.
Kiel	30.09	764.2	30.10	764.6	72.3	22.4	69	ENE			1		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.92	759.9	30.00	761.9	70.7	21.5	79	NE			3		4			0.004	0.1		Prof. E. Luther.
Köslin			30.08	764.0	61.7	16.5		N			2		4			0	0		H. Müller.
Leipsic Observatory	29.69	754.1	30.10	764.4	74.1	23.4	56	NNE			1		6	NE		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.92	759.9	30.97	761.1	76.6	24.8	51	NNE			3		1ck						Skalweit.
Munich (München)	28.26	717.7	30.12	765.1	73.6	23.1	40	NE			2		1			0	0		Dr. C. Lang.
Neufahrwasser	30.06	763.5	30.08	763.9	65.1	18.4	84	NNW			3		7			0	0		A. Lothes.
Posen	29.72	755.0	30.00	762.1	72.7	22.6	58	N			6		4			0	0		Dr. Magener.
Strassburg (in Alsace)	29.50	749.3	30.03	762.7	76.6	24.8	60	NE			1		10			0	0		Imp. University Observatory.
Stuttgart	29.08	738.6	29.97	761.2	79.2	26.2	38	N			1		5	NW		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.58	725.8	30.02	762.5	73.4	23.0	41	NE	1.1	0.5		1c				0	0		T. Hopfner.
Wustrow	30.11	764.9	30.14	765.5	70.0	21.1	77	E			2		5cs			0	0		E. Schütz, Director
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.7	29.81	757.2	86.5	30.3		SW			2.0		k					Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.6	29.60	751.9	82.3	27.9	71	WSW	10.0	4.5			3	SW	WSW	0	0	D. clouds
Deesa	29.09	739.0	29.56	750.8	82.2	27.9	79	WSW	11.3	5.0			9		W	0.15	3.8	D. clouds
Bombay	29.68	754.0	29.72	754.9	76.9	24.9	97	W	19.0	8.5			10			0.53	13.5	Raining
Poona	27.88	708.1	29.75	755.7	71.0	21.7	90	W	17.0	7.6			10		W	0.27	6.9	Drizzling
Lahore	28.76	730.5	29.48	748.8	89.6	32.0	66	NE	3.7	1.6			3			0	0	Blue sky
Belgaum	27.28	692.8	29.85	758.3	67.4	19.7	96	W	16.0	7.2			10		W	1.20	30.5	Drizzling
Roorkee	28.62	727.0	29.50	749.4	85.2	29.6	76	NW	5.6	2.5			6			0	0	
Agra	28.96	735.4	29.51	749.5	85.7	29.8	78	S					7		S	0	0	
Nagpur	28.59	726.2	29.63	752.5	80.4	26.9	79	Calm	5.3	2.4			9		E	0.73	18.5	Gloomy
Lucknow	29.16	740.8	29.54	750.2	82.0	27.8	89	Calm	3.0	1.3			4	SSW		0	0	D. clouds
Allahabad	29.25	742.9	29.56	750.8	80.5	26.9	92	Calm	1.4	0.6			10			0.60	15.2	Overcast
Patna	29.38	746.3	29.56	750.9	83.8	28.8	88	E	0.4	0.2			10	E	E	0.26	6.6	Overcast
Hazaribagh	27.57	700.3	29.58	751.2	75.3	24.1	87	SE	3.3	1.5			10	N	S	0.15	3.8	Showery
Cuttack	29.58	751.4	29.66	753.5	77.8	25.4	95	SW	1.0	0.4			10			0.11	2.8	D. clouds
Calcutta (Alipore)	29.59	751.6	29.62	752.2	76.8	24.9	95	WSW	1.0	0.4			10		S	0.40	10.2	Overcast
Goalpara	29.25	742.9	29.64	752.8	79.3	26.3	89	ESE	2.6	1.2			6			0.10	2.5	D. clouds
Chittagong	29.63	752.6	29.72	754.9	78.7	25.9	91	SSE	7.1	3.2			9			0.04	1.0	Misty
Sibsagar	29.35	745.5	29.68	754.0	81.3	27.4	82	WSW	2.9	1.3			10			0.80	20.3	D. clouds
Jubbulpore	28.23	717.1	29.59	751.6	77.8	25.4	84	NW	4.4	2.0			10		NW	0.08	2.0	Overcast

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. nches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.56	750.9	29.96	760.9	86.0	30.0	32	SE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	747.6	29.93	760.1	86.5	30.3	45	E	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.84	758.0	29.95	760.7	83.8	28.8	38	SE	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.06	738.1	29.93	760.1	85.8	29.9	47	SE	2.5	1.1	.....	.....	6	NW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.79	756.6	29.97	761.2	81.0	27.2	63	SW	8.7	3.9	.....	.....	8	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.10	713.6	29.93	760.1	82.2	27.9	54	N	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.91	759.7	29.96	760.9	79.3	26.3	62	E	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.1	29.93	760.3	88.7	31.5	39	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.7	29.95	760.8	80.4	26.9	65	W	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.77	756.2	29.94	760.5	89.4	31.9	43	W	6.9	3.1	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.68	753.9	29.93	760.1	82.2	27.9	36	NNW	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.07	738.4	29.91	759.8	91.0	32.8	58	NW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.79	756.6	29.97	761.3	83.3	28.5	46	SE	.....	.....	2	.....	5	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.71	754.7	29.96	760.9	80.6	27.0	70	ENE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.1	29.96	761.0	85.6	29.8	60	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.6	29.99	761.7	84.9	29.4	68	WSW	2.5	1.1	.....	.....	2	S	.....	0	0	.....	Prof. ... Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.64	752.8	29.65	753.1	83.6	28.7	75	SW	5.8	2.6	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.57	751.1	29.76	755.9	81.3	27.4	92	SW	7.2	3.2	.....	.....	8s	.....	.....	0.060	1.52	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.46	748.3	29.52	749.8	78.4	25.8	91	S	2.1	0.9	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.69	751.6	29.64	752.8	81.2	27.3	87	E	2.8	1.2	.....	.....	3s	.....	.....	0.025	0.63	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.02	635.4	29.98	761.5	61.2	16.2	83	Calm	.....	.....	0	.....	10	.....	SE	0.43	11.0	Covered	Prof. L. Peres.
Leon	24.40	619.7	30.00	762.1	64.2	17.9	91	SE	.....	.....	2	2c	7k	NE	.....	0.08	2.0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	29.99	761.8	57.4	14.1	80	Calm	0	0	.....	8k	0	S	.....	0.32	8.2	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.3	17.4	88	N	.....	.....	1	.....	10n	.....	NE	0.95	24.2	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.7	29.88	759.0	80.1	26.7	89	SE	.....	.....	1	5	3	SE	W	0	0	Threatening	Prof. M. M. Chàsaro.
San Luis Potosi	24.20	614.6	30.10	764.6	62.1	16.7	72	E	.....	.....	1	.....	9	.....	E	0.24	6.1	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel'.
Zacatecas	22.67	575.3	30.13	765.2	56.8	13.8	94	NE	.....	.....	1	.....	10n	.....	ESE	0.43	11.0	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.45	595.5	30.16	766.1	57.4	14.1	82	S	0.4	0.2	.....	.....	9ck	.....	S	0.13	3.3	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.60	751.8	29.89	759.1	77.5	25.3	93	SE	.....	.....	2	.....	9n	.....	NE	Inap.	Inap.	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Guernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.07	763.7	30.07	763.7	69.1	20.6	.....	W	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Groningen	30.00	762.1	30.06	763.5	74.1	23.4	.....	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.0	30.04	763.0	67.5	19.7	.....	ESE	.....	.....	0	.....	.....	.....	.....	0.150	3.8	.....	
Hellevoetsluis	30.02	762.6	30.02	762.6	72.9	22.7	90	Calm	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Utrecht	30.02	762.4	30.07	763.6	71.2	21.8	77	SW	.....	.....	2	.....	10	.....	.....	0.020	0.5	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.04	763.1	30.10	764.5	71.6	22.0	66	SW	7.8	3.5	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.07	763.8*	30.11	764.8	69.8	21.0	49	N	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.97	761.1	30.10	764.6	77.5	25.3	55	NE	4	2	.....	.....	4	.....	.....	0	0	.....	
Tromsö	30.08	764.0	30.12	765.1	55.0	12.8	72	NE	9	4	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.07	763.6	30.25	768.3	77.0	25.0	80	W	6.9	3.1	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.03	737.4	30.00	761.9	87.1	30.6	32	W	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.05	763.2	30.13	765.4	73.9	23.3	70	SE	4.9	2.2	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.1	30.08	763.9	77.7	25.4	44	N	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.19	766.9	30.28	769.1	81.0	27.2	67	W	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.. ..	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.97	761.3	70.2	21.2	.....	WNW	.....	.....	3	.....	1	.....	WNW	1	WNW	D. clouds..... H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.02	762.5	80.6	27.0	.....	E	.....	.....	2	.....	8	.....	E	2	E	D. clouds, 3 hr's rain-fall. A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A. de Brito Capello, S. 0° 11′, W. 0° 50′	.....	.....	30.05	763.2	71.6	22.0	.....	S	.....	.....	2	.....	8	.....	S	1	S	D. clouds..... H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.97	761.1	86.4	30.2	.....	SW	.....	.....	2	.....	0	.....	.....	0	....	Blue sky... J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.54	750.2	29.95	760.6	69.6	20.9	57	NNW	11	5	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.47	748.4	29.87	758.7	66.4	19.1	80	N	11	5	.....	.....	8	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Dorpat	29.80	756.8	30.03	762.8	59.7	15.4	71	N	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.01	762.3	30.03	762.7	59.2	15.1	58	NE	20	9	.....	1c	.....	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.90	734.0	29.61	749.5	63.3	17.4	80	NNE	7	3	.....	.....	8ks;kn	.....	.....	.....	.....	Raining.....	Physical Cabinet.
Nikolaiev	29.54	750.3	29.61	752.1	67.5	19.7	80	S	16	7	.....	.....	7n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.68	753.9	29.70	754.4	76.1	24.5	69	S	7	3	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.18	741.1	29.71	*754.6	61.0	17.8	85	N	7.8	3.5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.41	746.9	29.60	751.9	73.9	23.3	64	Calm	0	0	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.03	762.7	30.05	763.2	47.3	8.5	91	NNW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.28	718.3	29.60	751.7	88.2	31.2	37	S	4	2	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.75	755.7	29.67	753.6	79.7	26.5	44	E	11	5	.....	.....	5ck;h	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.18	741.1	29.62	752.4	74.3	23.5	47	NNW	2	1	.....	.....	2	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.32	744.7	29.58	751.3	59.4	15.2	94	WNW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.71	729.3	29.64	752.8	64.0	17.8	77	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.41	747.1	29.63	752.6	90.5	32.5	18	NNW	11	5	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.08	713.2	29.53	750.0	87.3	30.7	62	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.37	745.9	29.85	758.3	56.5	13.6	51	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.48	748.7	29.76	755.8	55.8	13.3	76	SE	7	3	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.49	749.1	29.63	752.7	80.9	26.9	66	NW	7	3	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.53	750.0	29.63	752.5	64.4	18.0	84	SE	18	8	.....	.....	8n	.....	.....	Blank	Blank	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.96	760.9	30.06	763.5	82.9	28.3	47	ESE	2.3	1.03	.....	.....	8	.....	.....	0	0	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.06	763.4	30.11	764.8	75.6	24.2	65	NW	1.5	0.69	.....	1	8	N	.....	0	0	Almost cov'd	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.15	689.7	.....	.....	71.1	21.7	60	N	5.9	2.63	.....	0	8	.....	.....	0.728	18.5	Light clouds	Domingo Martin y Peres.
Madrid, Royal Observatory	27.84	707.0	29.93	760.1	86.0	30.0	35	S	5.2	2.33	.....	0	2	.....	.....	0	0	Clouds.....	The Staff.
Murcia, Met. Obs'y	29.80	756.9	29.94	760.5	91.4	33.0	33	NW	4.3	1.92	.....	2	4	SSE	... .	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.9	30.03	762.7	76.3	24.6	53	SW	0	0	.....	0	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	760.1	29.99	761.7	82.0	27.8	84	ESE	1.1	0.5	.....	7c	1k	SW	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	758.0	29.89	759.3	81.6	27.7	85	NE	0.4	0.2	.....	.....	3s	.....	E	0.192	4.9	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.3	29.99	761.7	84.0	28.9	47	WSW	2.4	4.2	.....	0	8	.....	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.86	758.4	29.95	760.7	83.5	28.6	76	E	6.3	2.83	.....	4kn	2kn	E	E	1.791	45.50	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.19	766.7	30.23	767.7	62.2	16.8	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	
Umea	30.17	766.4	30.23	767.7	64.0	17.8	65	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Hernosand	30.17	766.2	30.22	767.5	69.1	20.6	70	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.95	760.8	30.13	765.3	70.5	21.4	57	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	30.01	762.2	30.07	763.7	59.0	15.0	96	N	.....	.....	4	.....	10	.....	.....	0.012	0.3	Foggy	
Sub-Series.																			
Upsala	30.07	763.7	30.15	765.9	68.2	29.1	68	N	10.1	4.5	.....	.....	6	NNE;NNW	NNE	0.000	0.15	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	726.9	29.98	761.6	75.6	24.2	56	N	.....	.....	2	.....	3	.....	.....	0	0	Smoky	The Observatory.
Zurich	28.39	721.1	29.95	760.6	79.2	26.2	66	NW	.....	.....	1	.....	4	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.9 mm.; Thermometer, +2.3 Cent.; Relative Humidity, +1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.79	756.7	83.5	28.6	37	SW	7	3.0	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.0	80.8	27.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.62	752.3	29.78	755.2	91.0	32.8	54	SW	.....	.....	4	.....	2k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.60	751.8	29.66	753.4	63	17.2	89	S	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	G. A. Ball.
Charlottetown, P. E. Island	29.74	755.4	29.78	756.4	66	18.9	85	S	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.39	746.5	29.57	751.1	66.4	19.1	90	SW	.....	.....	5	.....	10s	.....	.....	0.065	1.65	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	64.5	18.1	97	W	.....	.....	1	0	0	.....	.....	0.27	6.9	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.43	747.5	29.46	748.3	65	18.3	89	SW	24	10.7	.....	.....	10s	.....	SW	0.18	4.6	Cloudy	J. McWilliams.
Fredericton, N. B	29.65	753.1	29.72	754.9	65 2	18.4	82	SW	6	2.7	.....	.....	10s	.....	.....	0.42	10.67	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.16	740.7	29.97	761.2	58	14.4	94	NW	4	1.8	.....	5k	5n	W	W	0.020	0.51	Cloudy	James Stewart.
Granton, Ontario	28.78	720.7	29.79	756.7	62	16.7	100	SW	.....	.....	1	1cs	0	.....	.....	0.37	9.4	Clear	James Grant.
*Halifax, N. S	29.78	756.4	29.91	759.7	65	18.3	80	SW	10	4.5	.....	.....	8ks	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.81	757.2	65.2	18.4	89	W	.....	.....	2	0	0	.....	.....	0.32	8.1	Hazy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.37	746.0	29.70	754.4	65	18.3	89	NW	13	5.8	.....	8cs	2ks	Calm	W	0.31	7.9	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.83	757.7	29.87	758.7	68.9	20.5	80	SW	10	4.5	.....	3c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.40	746.7	29.59	751.6	67	19.4	87	SW	16	7.2	.....	.....	10n	.....	W	0.22	5.6	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.08	738.6	29.75	755.6	61	16.1	90	NW	13	5.8	.....	.....	10n	.....	SW	0.31	7.9	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.01	736.8	29.74	755.4	64.7	18.2	86	W	.....	.....	3	.....	10	.....	.....	0.08	2.0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.13	739.9	29.81	757.2	62	16.7	100	W	3	1.3	.....	0	0	.....	.....	0.27	6.9	Clear	H. Morgan.
Port Hastings, N. S	29.82	757.4	29.87	758.7	66.6	19.2	.....	SW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.82	757.4	62	16.7	93	W	8	3.6	.....	2k	Fog	W	.....	0.23	5.6	Foggy	M. Payne.
*Quebec, Quebec	29.26	743.2	29.57	751.1	63	17.2	100	NW	.....	.....	5	.....	10n	.....	W	0.51	13.0	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.22	742.2	29.66	753.4	60	15.6	88	NW	10	4.5	.....	.....	10s	.....	NW	0.17	4.3	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.07	753.6	29.73	755.1	63	17.2	88	W	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.02	752.3	29.78	756.4	58	14.4	100	SW	17	7.6	.....	.....	Fog	.....	.....	0.100	2.54	Heavy fog	G. Murdock, C. E.
*Saugeen, Ontario	29.09	738.9	29.78	756.4	61	16.1	86	NW	13	5.8	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	29.85	758.2	29.88	758.9	67	19.4	77	SW	13	5.8	.....	8c	Haze	.....	.....	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	29.42	747.3	29.79	756.7	63	17.2	86	NW	8	3.6	.....	2ck	Haze	W	Calm	0.15	3.8	Fair	Prof. John E. Oram.
Woodstock, Ontario	29.81	757.2	29.84	757.9	68.0	20.0	72	SW	15	6.7	.....	6k	0	.....	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.12	765.0	68.0	20.0	65	E	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.58	751.3	29.79	756.7	69	20.6	80	S	8	3.6	.....	5cs	8s	W	W	0.13	3.3	Cloudy	
Alpena, Michigan	29.20	741.7	29.82	757.4	59	15.0	88	NW	16	7.2	.....	.....	10n	.....	NW	0.14	3.6	Light rain	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	100	SE	2	0.9	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Atlanta, Georgia	28.91	734.3	30.02	762.5	70	21.1	84	W	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Atlantic City, New Jersey	29.91	759.7	29.92	760.0	73	22.8	90	SW	10	4.5	.....	5c	0	W	.....	0	0	Fair	
Augusta, Georgia	29.86	758.4	30.05	763.3	70	21.1	80	Calm	0	0	.....	2ck	2s	NW	Calm	0	0	Fair	
Baltimore, Maryland	29.88	758.9	29.92	760.0	71	21.7	75	S	2	0.9	.....	Haze	Sm'e	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	77	25.0	82	SW	14	6.3	.....	0	Haze	.....	Calm	0	0	Clear	
Bismarck, Dakota	28.11	714.0	29.97	761.2	59	15.0	88	E	9	4.0	.....	0	Fog	.....	Calm	0	0	Foggy	
Boerne, Texas	28.52	724.4	29.78	756.4	73	22.8	85	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Boise City, Idaho	27.11	688.6	30.07	763.8	65	18.3	54	SE	2	0.9	.....	5k	Sm'e	SW	Calm	0	0	Fair	
Boston, Massachusetts	29.68	753 9	29.83	757.7	71	21.7	75	SW	15	6.7	.....	2ck	5ks	SW	SW	0	0	Fair	
Brackettville, Texas	28.80	731.5	29.80	756.9	69	20.6	95	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.95	735.3	29.93	760.2	53	11.7	93	S	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	
Brownsville, Texas	29.58	758.9	29.92	760.0	75	23.9	100	SE	8	3.6	.....	.....	10n	.....	SE	2.64	67.1	Heavy rain	
Buffalo, New York	29.11	739.4	29.77	756.1	66	18.9	74	NW	6	2.7	.....	.....	Haze	.....	Calm	0.31	7.9	Hazy	
Burkes, Arizona	.....	.....	.....	.....	74	23.3	43	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.40	746.7	29.67	753.6	69	20.6	80	S	15	6.7	.....	5ck	5ks	W	SW	0.09	2.3	Cloudy	
Cairo, Illinois	29.62	752.3	29.99	761.7	73	22.8	85	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Campo, California	27.34	694.4	29.92	760.0	55	12.8	56	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.97	761.2	29.98	761.5	73	22.8	90	NE	10	4.5	.....	1cs	8s	Calm	N	0.87	22.1	Cloudy	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	74	23.3	76	SW	6	2.7	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Cape Lookout, N. Carolina	29.98	761.5	29.99	761.7	72	22.2	95	N	10	4.5	.....	0	0	.....	.....	1.80	45.7	Clear	
Cape May, New Jersey	29.89	759.2	29.92	760.0	74	23.3	81	S	14	6.3	.....	8c	0	SW	.....	0	0	Fair	
Castroville, Texas	29.18	741.1	29.85	758.2	74	23.3	90	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Charleston, South Carolina	29.97	761.2	30.02	762.5	78	25.6	82	NE	1	0.4	.....	2k	Fog	Calm	Calm	0	0	Fair	
Charlotte, North Carolina	29.17	740.9	29.96	761.0	66	18.9	84	Calm	0	0	.....	10cs	Sm'e	SW	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.25	742.9	30.03	762.7	70	21.1	90	Calm	0	0	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	52	11.1	73	NW	8	3.6	.....	0	0	.....	.....	0.19	4.8	Clear	
Chicago, Illinois	29.21	741.9	29.87	758.7	64	17.8	73	W	4	1.8	.....	0	Haze	.....	.....	0.08	2.0	Clear	
Cincinnati, Ohio	29.30	744.2	29.92	760.0	72	22.2	76	SW	5	2.2	.....	5ck;k	0	W	.....	0.03	0.8	Fair	
Cleveland, Ohio	29.16	740.7	29.85	758.2	70	21.1	57	NW	8	3.6	.....	5ck	Haze	W	Calm	0.14	3.6	Fair	
Coleman City, Texas	28.14	714.7	29.73	755.1	71	21.7	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.06	738.1	29.85	758.2	73	22.8	72	S	2	0.9	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Concho, Texas	27.99	710.9	29.61	752.1	67	19.4	74	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.48	748.8	29.93	760.2	72	22.2	90	SE	3	1.3	.....	0	2ks	.....	Calm	0	0	Clear	
Davenport, Iowa	29.29	744.0	29.91	759.7	60	15.6	82	NW	8	3.6	.....	2c	Haze	W	Calm	0	0	Fair	
Deadwood, Dakota	25.46	646.7	.....	.....	58	14.4	70	E	2	0.9	.....	8k	0	E	.....	0	0	Fair	
Decatur, Texas	28.78	731.0	29.88	758.9	80	26.7	74	S	9	4.0	.....	2ck	0	SW	.....	0	0	Fair	
Denison, Texas	29.14	740.1	29.89	759.2	73	22.8	85	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.92	633.0	30.14	765.5	57	13.9	75	S	4	1.8	.....	0	0	.....	.....	0.98	24.9	Clear	
Des Moines, Iowa	29.05	737.9	29.91	759.7	57	13.9	87	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Detroit, Michigan	29.19	741.4	29.83	757.7	62	16.7	88	W	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear	
Dodge City, Kansas	27.37	695.2	29.57	751.1	64	17.8	89	N	8	3.6	.....	1ck	0	W	.....	0.07	1.8	Clear	
Dubuque, Iowa	29.23	742.4	29.90	759.4	61	16.1	82	W	1	0.4	.....	2c	Haze	NW	Calm	0	0	Fair	
Duluth, Minnesota	29.30	744.2	29.96	761.0	58	14.4	94	NE	6	2.7	.....	.....	10s	.....	NE	0.16	4.1	Threatening	
Eagle Pass, Texas	29.16	740.7	29.86	758.4	73	22.8	90	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.68	753.9	29.74	755.4	63	17.2	94	SW	20	8.9	.....	.....	10s;fg	.....	SW	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	10s	.....	Calm	0.80	20.3	Cloudy	
El Paso, Texas	26.21	665.7	.....	.....	61	16.1	61	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.13	739.9	29.81	757.2	68	20.0	84	NW	8	3.6	.....	5k	Haze	NW	Calm	0.83	21.1	Fair	
Escanaba, Michigan	29.28	743.7	29.92	760.0	55	12.8	68	N	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	74	23.3	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.96	710.2	29.74	755.4	60	15.6	76	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	59	15.0	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.38	746.2	29.90	759.4	74	23.3	81	SE	2	0.9	.....	Haze	0	.....	.....	0	0	Hazy	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	76	24.4	31	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.89	759.2	70	21.1	85	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.43	696.7	.....	.....	61	16.1	66	N	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.69	703.3	29.53	750.0	67	19.4	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.76	755.9	73	22.8	72	SE	2	0.9	.....	10ck	0	SW	.....	0	0	Cloudy	
Fort Stevenson, Dakota	28.11	714.0	.....	.....	57	13.9	87	NE	2	0.9	.....	2ck	0	NE	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	79	26.1	27	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.55	750.6	75	23.9	77	S	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.93	760.2	29.98	761.5	75	23.9	95	NE	4	1.8	.....	2k	2ks	NE	Calm	0	0	Fair	
Graham, Texas	28.85	732.8	29.86	758.4	72	22.2	80	Calm	0	0	.....	0	8ks	.....	NW	0	0	Fair	
Grand Haven, Michigan	29.22	742.2	29.84	757.9	68	20.0	74	Calm	0	0	.....	0	5s	.....	Calm	0.84	21.3	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.87	758.7	71	21.7	80	SW	6	2.7	.....	2c	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.15	740.4	29.89	759.2	70	21.1	89	W	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Indianola, Texas	29.94	760.5	29.97	761.2	78	25.6	86	S	8	3.6	.....	0	2ks	.....	S	0.02	0.5	Fair	
Jacksboro, Texas	28.80	731.5	29.88	758.9	75	23.9	77	S	3	1.3	.....	5ck	0	NE	.....	0	0	Fair	
Jacksonville, Florida	30.02	762.5	30.05	763.3	81	27.2	74	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.30	744.2	29.90	759.4	64	17.8	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Key West, Florida	29.96	761.0	30.00	762.0	86	30.0	72	E	8	3.6	.....	5k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.90	759.4	74	23.3	76	NE	11	4.9	.....	5c	Haze	NE	Calm	0	0	Fair	
Knoxville, Tennessee	29.07	738.4	30.04	763.0	67	19.4	82	SW	1	0.4	.....	8c	2ks	Calm	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.17	740.9	29.88	758.9	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	60	15.6	60	Calm	0	0	.....	5k	0	NW	.....	0	0	Fair	
Laredo, Texas	29.62	752.3	29.95	760.7	75	23.9	60	NE	2	0.9	.....	2k	0	W	.....	0	0	Clear	
Leavenworth, Kansas	29.08	738.6	29.89	759.2	70	21.1	85	S	1	0.4	.....	.....	10s;fg	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.66	753.4	30.01	762.2	71	21.7	95	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.54	750.3	29.87	758.7	62.5	16.9	94	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.40	746.7	29.93	760.2	73	22.8	76	E	8	3.6	.....	2cs	Sm'e	Calm	Calm	0.48	10.9	Clear	
Lynchburg, Virginia	29.30	744.2	29.95	760.7	72	22.2	75	NE	1	0.4	.....	10cs	Sm'e	SW	Calm	0	0	Cloudy	
Madison, Wisconsin	28.90	734.0	29.85	758.2	63	17.2	83	NW	7	3.1	.....	2c	2s	NW	NW	0	0	Fair	
Marquette, Michigan	29.26	743.2	29.95	760.7	54	12.2	67	NE	8	3.6	.....	0	0	.....	.....	0.28	7.1	Clear	
Mason, Texas	28.34	719.8	30.05	763.3	68	20.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.66	753.4	29.99	761.7	72	22.2	90	S	4	1.8	.....	5ck	2s	S	SW	0	0	Fair	
Milwaukee, Wisconsin	29.15	740.4	29.85	758.2	62	16.7	83	NW	9	4.0	.....	1cs	0	Calm	.....	Inap.	Inap.	Clear	
Mobile, Alabama	29.91	759.7	29.93	760.0	75.5	24.2	97	NE	7	3.1	.....	.....	10s	.....	S	0.12	3.0	Threatening	
Montgomery, Alabama	29.81	757.2	30.04	763.0	72	22.2	95	N	3	1.3	.....	.....	10.1	.....	SE	0.05	1.3	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.94	735.1	29.88	758.9	72	22.2	76	SW	5	2.2	... .	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.66	601.0	30.02	762.5	47	8.3	100	NW	45	20.1	.....	.....	10n	.....	NW	0.19	4.8	Light rain...	
Nashville, Tennessee.....	29.50	749.3	30.01	762.2	73	22.8	81	S	1	0.4	.....	2cs	Haze	Calm	Calm	0	0	Fair	
New Haven, Connecticut.....	29.76	755.9	29.87	758.7	72	22.2	85	SW	8	3.6	... .	.....	10s	.....	SW	0	0	Cloudy.....	
New London, Connecticut...	29.86	758.2	29.90	759.4	74	23.3	81	SW	10	4.5	.....	.....	10ks	.....	SW	0	0	Threatening	
New Orleans, Louisiana.....	29.88	758.9	29.94	760.5	78	25.6	82	NW	4	1.8	.....	.....	10ks	.....	NW	2.60	66.0	Cloudy.....	
Newport, Rhode Island.....	29.84	757.9	29.88	758.9	71	21.7	83	SW	9	4.0	.....	5cs	Haze	SW	.....	0	0	Fair	
New York, New York.....	29.73	755.1	29.90	759.4	69	20.6	90	W	12	5.4	.....	.....	10ks	.....	E	0	0	Cloudy.....	
Norfolk, Virginia.....	29.90	759.4	29.96	761.0	77	25.0	77	SW	4	1.8	.. ....	5c	0	NE	.....	0.02	0.5	Fair.....	
North Platte, Nebraska	27.11	688.6	29.64	752.8	57	13.9	94	NW	10	4.5	.....	2c	0	Calm	.....	0.08	2.0	Clear.....	
Olympia, Washington Ter..	29.96	761.0	30.00	762.0	53.0	11.7	93	N	1	0.4	.....	0	Fg;smk	.....	Calm	0	0	Clear.....	
Omaha, Nebraska.....	28.81	731.8	29.87	758.7	63	17.2	83	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York.....	29.45	748.0	29.76	755.9	68	20.0	79	W	12	5.4	.....	.....	10s	....	W	0.19	4.8	Cloudy.	
Pembina, Dakota.....	29.10	739.1	29.91	759.7	52	11.1	93	NW	3	1.3	.....	.....	10s	....	Calm	0	0	Cloudy	
Philadelphia, Pa.....	29.85	758.2	29.90	759.4	70	21.1	95	SW	12	5.4	.....	.....	10ks; fg	.....	SW;Calm	0	0	Cloudy.....	
Phœnix, Arizona.....	28.65	727.7	30.35	770.9	78	25.6	39	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	18.00	457.2	30.21	767.3	30	— 1.1	89	NE	20	8.9	.....	1k	0	N	.....	0.41	10.4	Clear.....	
Pilot Point, Texas.....	29.05	737.9	29.82	757.4	84	28.9	68	SE	12	5.4	.....	5k	5s	S	SE	0	0	Cloudy.....	
Ploche, Nevada..... .	.....	.....	.....	.....	63	17.2	38	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	29.09	738.9	29.86	758.4	70	21.1	70	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy.....	
Port Huron, Michigan.....	29.18	741.1	29.82	757.4	60	15.6	94	W	7	3.1	.....	.....	Fog	.....	Calm	0.16	4.1	Foggy	
Portland, Maine.....	29.71	754.6	29.76	755.9	68	20.0	84	S	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Portland, Oregon.....	29.93	760.2	30.00	762.0	58.5	14.6	86	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.82	630.4	30.18	766.6	64	17.8	39	W	.....	.....	1	0	0	.....	....	0	0	Clear.....	
Punta Rassa, Florida.....	29.99	761.7	30.01	762.2	81	27.2	83	E	7	3.1	.....	2ck	0	SW	.....	0.12	3.0	Fair.....	
Red Bluff, California.....	29.49	749.0	29.84	757.9	69	20.6	39	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas.....	29.75	755.6	29.96	761.0	77	25.0	91	E	5	2.2	.....	0	2s	.....	Calm	0	0	Clear.....	
Rochester, New York.....	29.17	740.9	29.75	755.6	67	19.4	79	W	8	3.6	.....	2k	Sm'e	W	.....	0.24	6.1	Smoky.....	
Roseburg, Oregon.....	29.44	747.8	30.00	762.0	58	14.4	76	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sacramento, California.....	29.75	755.6	29.83	757.7	69	20.6	77	S	4	1.8	.....	0	0	....	.....	0	0	Clear.	
St. Louis, Missouri.....	29.37	746.0	29.91	759.7	71	21.7	75	SW	3	1.3	.....	5ck	0	Calm	.....	0	0	Fair.....	
St. Marks, Florida.....	30.00	762.0	30.02	762.5	76	24.4	86	NE	3	1.3	.....	7c;cs	1s	.....	Calm	0	0	Fair.....	
St. Paul, Minnesota.....	29.68	738.6	29.89	759.2	59	15.0	87	NE	2	0.9	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Salt Lake City, Utah.....	25.70	652.8	30.03	762.7	68	20.0	34	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas.....	29.29	744.0	29.85	758.2	77	25.0	91	Calm	0	0	.....	10k	0	Calm	.....	0	0	Cloudy.....	
San Diego, California.....	29.80	756.9	29.87	758.7	67	19.4	89	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.22	742.2	29.86	758.4	67	19.4	89	W	4	1.8	.....	0	Fog	.....	Calm	0.06	1.5	Clear.....	
Sandy Hook, New Jersey....	29.85	758.2	29.88	758.9	73	22.8	85	SW	17	7.6	.....	.....	10ks	.....	W	0	0	Cloudy.....	
San Francisco, California...	29.81	757.2	29.88	758.9	52	11.1	93	W	6	2.7	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico.....	23.26	590.8	29.80	756.9	47	8.3	34	E	2	0.9	.....	0	0	....	.....	0.18	4.6	Clear..... ..	
Savannah, Georgia.....	29.96	761.0	30.05	763.3	78	25.6	73	NE	1	0.4	.....	1c	Sm'e	Calm	Calm	0	0	Clear.....	
Shreveport, Louisiana.....	29.75	755.6	29.96	761.0	72	22.2	95	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.00	762.0	30.04	763.0	70	21.1	100	N	2	0.9	.....	1cs	1s	Calm	N	0.31	7.9	Fair.....	
Socorro, New Mexico.....	25.41	645.4	29.48	748.8	62	16.7	61	Calm	0	0	.....	5ck	0	N	.....	0	0	Fair.....	
Springfield, Ill.....	29.29	744.0	29.94	760.5	64	17.8	83	N	5	2.2	.....	0	10s;fg	....	N;calm	0.57	14.5	Foggy	
Springfield, Massachusetts	29.71	754.6	29.84	757.9	70	21.1	85	S	6	2.7	.....	8ck	0	SW	.....	0	0	Cloudy	
Stockton, Texas.....	26.92	683.8	29.92	760.0	65	18.3	31	SE	5	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	29.78	756.4	29.84	757.9	64	17.8	94	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Toledo, Ohio, ...	29.19	741.4	29.85	758.2	65	18.3	84	W	3	1.3	.....	Haze	Sm'e	.....	.....	Inap.	Inap.	Hazy.....	
Tucson, Arizona.....	27.46	697.5	30.01	762.2	77	25.0	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon.....	29.59	751.6	30.07	763.8	61.0	16.1	45	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.95	737.9	29.84	757.9	71	21.7	85	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Vicksburg, Mississippi.....	29.74	755.4	29.99	761.7	71	21.7	90	SE	6	2.7	.....	.....	10s	....	SE	0.10	2.5	Cloudy.....	
Virginia City, Montana.....	24.40	619.8	29.88	758.9	65	18.3	28	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.43	747.5	29.79	756.7	64	17.8	60	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.81	757.2	29.92	760.0	71	21.7	71	S	3	1.3	.....	8cs	Haze	W	Calm	0	0	Fair.....	
Wickenburg, Arizona..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina.....	29.92	760.0	30.00	762.0	69	20.6	95	Calm	0	0	.....	5c	0	Calm	.....	0.07	1.8	Fair.....	
Winnemucca, Nevada.....	25.68	652.3	30.04	763.0	50	10.0	32	SW	8	3.6	.....	0	1s	..... .	Calm	0	0	Clear.....	
Wood's Holl, Mass.....	29.85	758.2	29.89	759.2	71	21.7	84	SW	18	8.0	.....	Haze	Haze	.....	.....	0	0	Dense haze..	
Yankton, Dakota.....	28.69	728.7	29.96	761.0	58	14.4	82	SE	2	0.9	.....	2k	Haze	NW	Calm	0	0	Fair.....	
Yuma, Arizona.....	29.63	752.6	29.79	756.7	78	25.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	29.94	760.5	29.99	761.7	85	29.4	75	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I.....	30.12	765.0	30.13	765.3	79	26.1	84	NW	.....	.....	.....	8s	2k	Calm	.....	0	0	Fair.....	Chas. Hasselbring
Medellin, Colombia, S. A..*	25.21	640.3	.....	.....	67.0	19.4	80	Calm	.....	.....	0	4c;cs	2ks	.....	.....	0.04	1.0	.....	James Gall.
Navassa, W. I.....	29.85	758.2	29.93	760.2	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.03	762.7	30.03	762.7	82	27.8	79	NE	.....	.....	3	4c	5k	E	.....	0.010	0.25	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.....	29.55	750.6	29.56	750.8	79	26.1	90	NE	8	3.6	.....	4c	8ks	E	.....	1.02	25.9	Cloudy.....	Robert Mason.
York Factory, B. A.....	29.81	757.2	29.86	758.4	44.0	6.7	96	NE	13	5.8	.....	0	2s	.....	N	0	0	Fair	G. O. Gellich.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,808 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.06 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., of 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	82	27.8	83	SE	13	5.8	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.54‡	750.3‡	.....	.....	80	26.7	89	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd, Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	58	14.4	100	SW	.....	....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, N. 34° 30′, W. 121° 28′	29.92‡	760.0‡	.....	.....	58	14.4	94	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	SE	Misty	
Alliance, N. 59° 13′, E 19° 35′	30.12‡	765.0‡	.....	.....	62	16.7	88	N	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Ashuelot, Yokohama, Japan	29.53‡	750.0‡	.....	.....	82	27.8	91	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado, New York, N. Y.	29.84‡	757.9‡	.....	.....	69	20.6	95	SW	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Constellation, Narragansett Bay, R. I.	29.88‡	758.9‡	.....	.....	70.5	21.4	90	SSW	.....	.....	4	.....	5	.....	SSW	0	0	.....	.....	Cloudy?	
Constitution, Navy Yard, Brooklyn, N.Y.	29.92‡	760.0‡	.....	.....	70	21.1	95	WSW	.....	.....	1	.....	10	.....	wsw	.....	.....	.....	.....	Overcast	
Enterprise, Cowes, England	30.06‡	763.5‡	.....	.....	70	21.1	90	W	.....	.....	1	.....	8	.....	W	.....	.....	Smooth	.....	Cloudy	
Essex, Rio de Janeiro, Brazil	30.33‡	770.4‡	.....	.....	69	20.6	95	NW	.....	.....	1	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Franklin, Norfolk, Va.	29.97‡	761.2‡	.....	.....	74	23.3	86	SW	5.1	2.3	.....	.....	2	.....	.....	0.02	0.5	.....	.....	Clear	
Hartford Rio de Janeiro, Brazil	30.32‡	770.1‡	.....	.....	73	22.8	72	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.85‡	758.2‡	.....	.....	61	16.1	82	SW	3.6	1.6	.....	.....	6	.....	SW	0	0	.....	.....	Cloudy	
Kearsarge, Pictou, Nova Scotia	29.83‡	757.7‡	.....	.....	65	18.3	100	SW	.....	.....	4–5	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.	
Michigan, Chicago, Ill.	29.84‡	757.9‡	.....	.....	63	17.2	83	WSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	Hazy	
Monocacy, Shanghai, China	29.81‡	757.2‡	.....	.....	89	31.7	73	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, N. 36° 04′, E. 141° 58′	29.55‡	760.6‡	.....	.....	81	27.2	87	W	.....	.....	2–3	.....	ck	.....	.....	0	0	Very light	SW	D. clouds	
New Hampshire, Port Royal, S. C.	30.02‡	762.5‡	.....	.....	76	24.4	95	SW	2	0.9	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Onward, Callao, Peru †.	29.99‡	761.7‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.81‡	757.2‡	.....	.....	85	29.4	97	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	70	21.1	95	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	29.99‡	761.7‡	.....	.....	60	15.6	94	SSE	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Misty	
Portsmouth. Portland, Maine	29.77‡	756.1‡	.....	.....	64	17.8	89	SW	.....	.....	2	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy	
Powhatan, N. 29° 43′, W 87° 15′	29.96‡	761.0‡	.....	.....	81	27.2	78	SE	.....	.....	3	.....	10	.....	Calm	0.4	10.	Smooth	.....	Cloudy	
Quinnebaug, Trieste, Austria	29.95‡	760.7‡	.....	.....	82	27.8	67	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Nagasaki, Japan §.	30.03‡	762.7‡	.....	.....	86	30.0	87	SW	.....	.....	2	.....	8	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Richmond, Yokohama, Japan	29.55‡	750.6‡	.....	.....	83	28.3	87	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡	.....	.....	74	23.3	90	SE	.....	.....	1	.....	10.	.....	Calm	0.81	20.6	.....	.....	Drizzling	
Santee, Annapolis, Md	29.94‡	760.5‡	.....	.....	71	21.7	85	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Hazy	
Saratoga, New Bedford, Mass.	29.90‡	759.4‡	.....	.....	74	23.3	95	SW	.....	.....	4	.....	5	.....	SW	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.92‡	760.0‡	.....	.....	71	21.7	95	SW	11	4.9	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy.	
Trenton, Gravesend, Eng.	30.01‡	762.2‡	.....	.....	76	24.4	61	WNW	.....	.....	0–1	.....	5	.....	SW	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.88‡	758.9‡	.....	.....	59	15.0	88	SSW	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 24° 24′, W. 81° 29′	30.03‡	762.7‡	.....	.....	84	28.9	83	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Wabash. Boston, Mass.	29.82‡	757.4‡	.....	.....	70	21.1	80	SW	7	3.1	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Wachusett, N. 31° 10′, W. 79° 10′	30.06‡	763.5‡	.....	.....	82	27.8	83	NNW	.....	.....	2	.....	2	.....	NE	.....	.....	Mod'ate	NE	Fair	
Wyoming, Samsoon, Black Sea	29.76‡	755.9‡	.....	.....	78	22.8	72	N	.....	.....	2	.....	10	.....	N	.....	.....	Smooth	N	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 14° 37′, W. 94° 12′	†	29.92‡	760.0‡	83	28.3	87	E			2		6		E	0.43 in. or 10.9mm	Mod'ate	SW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.89‡	759 2‡				SW			2		0						Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; P. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China	†	29.92‡	760.0‡	83	28.3	96	SW			2		1k			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			
S. S. Oceanic, Capt. J. Metcalf, N. 40° 14′, E. 161° 39′		29.96‡	745.7‡	72	22.2	95	S			4		10		W		3	S	Raining	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 52° 28′, E. 2° 47′		30.03‡	762.7‡	67.6	19.7	87	ESE			2		5		E	0	Smooth	SE	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 44° 52′, W. 47° 42′		30.23‡	767.8‡				WSW			2		10		SE		3	W	Foggy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		29.97‡	761.2‡	59	15.0	82	WNW			3		5		WNW	Light			Fair	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 35° 10'. W. 18° 37'.		30.21‡	767.3‡	71.8	22.1	77	N			4		6				3	NNE	D. clouds	Capt. W. Randall. Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden.																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith.																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

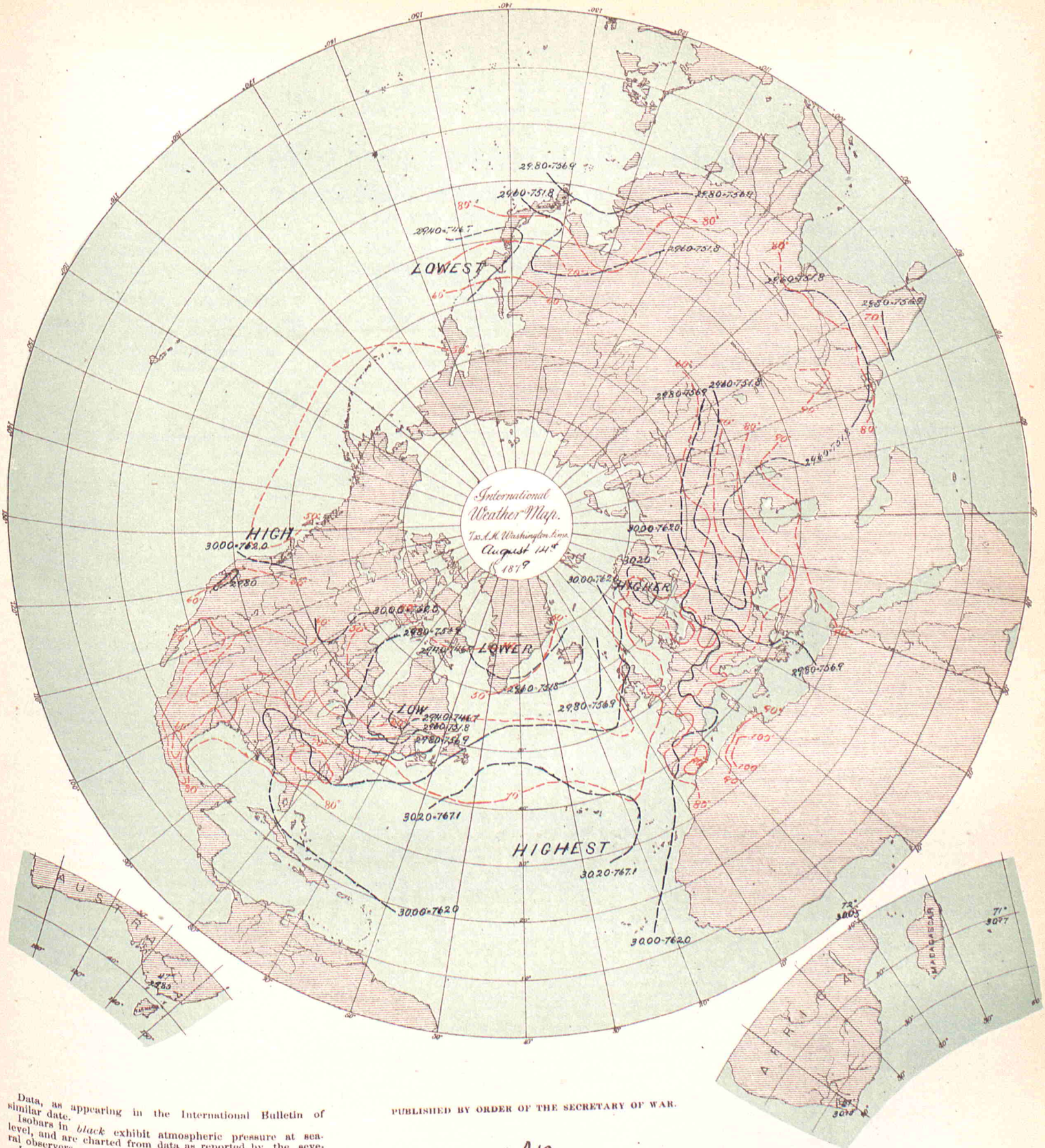
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.98	761.4	70.0	21.1	85	NE			2		2			0	0	Fair	
Nemours			29.93	760.2	82.6	28.1	82	NW			1		0			0	0	Clear	Kesxuche.
Algiers			29.91	759.6	81.7	27.6	71	N			3		0			0	0	Clear	Touriliere.
La Calle			29.88	759.0	82.0	27.8	76	NNW			3		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			29.95	760.6															Herbin.
Tebessa			29.89	759.3	83.5	28.6	26	N			3		0			0	0	Clear	Watrin.
Geriville			29.89	759.1	98.1	36.7	12	WSW			5		5			0	0	Cloudy	Brugniaux.
Laghouat					74.8	23.8	85	NNW			2		2			0	0	Fair	Bertrand.
Biskra			29.87	758.6	96.8	36.0	32	SE			3		0			0	0	Clear	Chanvaux.
			29.77	756.2	103.3	39.6	11	E			3		0			0	0	Clear	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram																			
Cracow, I. R. Observatory	29.43	747.5	29.95	760.8	75.7	24.3	41	NW			4		4			0	0		Prof. Ivan Stozir.
Eperies	29.26	743.3	30.01	762.2	69.4	20.8	51	NNW	4.3	1.9			2			0.016	0.4		Prof. Dr. Karlinski, Dir.
Gratz	29.07	738.3	29.91	759.8	71.6	22.0	52	Calm			0		6ks		S	0.048	1.22		Julius Mikolik.
Hermannstadt	28.76	730.6	29.97	761.1	72.5	22.5	62	SW			2		0			0	0		Andreas Rospini.
Kremsmünster	28.48	723.3	29.86	758.3	70.3	21.3	53	NNW			1		5			0.033	0.85		Prof. A. Gottschling.
Lemberg	28.63	727.2	29.91	759.8	73.6	23.1	63	ENE			3		1			0	0		Prof. C. Wagner.
Pola	28.90	734.0	29.85	758.3	64.0	17.8	78	NE			2		10			0.012	0.3		Dr. T. Stanecki.
Szathmar	29.82	757.3	29.92	760.0	83.1	28.4	37	SE			2		0			0	0		I.R.HydrographicOffice.
Szegedin	29.45	748.1	29.90	759.5	72.0	22.2	58	NW			4		8			0	0		Pet Paucsics.
Trieste	29.66	753.8	29.93	760.1	74.5	23.6	59	Calm			0		7			0	0		Karl Stancel.
Vienna	29.85	758.2	29.95	760.8	82.9	28.3	55	W			1		7			0	0		P. Busin.
	29.30	744.1	30.04	763.1	74.8	23.6	63	N			1		4			0	0		I. R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.87	758.7	29.97	761.2	53.7	12.1	.....	E	7	3.1	.....	.....	9	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	29.88	758.9	29.90	759.4	64	17.8	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.66	753.4	29.88	758.9	63.0	17.2	.....	ESE	8	3 6	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	.....	.....	66.0	18.9	.....	SE	13	5.8	.....	.....	5	.....	.....	.....	.....	Misty	John Hartnup.
Bolton (Sharples)	.....	.....	29.88	758.9	64.1	17.8	.....	SE	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.53	750.0	29.93	760.2	66.8	19.3	.....	NE	.....	.....	3	.....	3	.....	.....	0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.96	761.0	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.82	757.4	29.90	759.4	70.0	21.1	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	Overcast?	H. Todd.
Cardington	.....	.....	29.81	757.2	75.0	23.9	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.80	756.9	29.92	760.0	74.0	23.3	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.90	759.4	29.94	760.5	62	16.7	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.91	759.7	29.93	760.2	62	16.7	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth, Observatory	29.72	754.9	29.94	760.5	63.1	17.3	.....	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier (Natal)	27.66	702.6	29.95	760.7	79.0	26.1	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	74	23.3	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.78	756.4	59	15.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.86	758.4	29.91	759.7	85.7	29.8	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.69	754.1	29.90	759.4	64.7	18.2	.....	ENE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.94	760.5	29.95	760.7	61	16.1	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.74	755.4	29.91	759.7	75.7	24.3	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.74	755.4	29.97	761.2	65	18.3	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.02	762.5	30.13	765.3	67	19.4	.....	S	.....	.....	2	3c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.90	759.4	29.89	759.2	64	17.8	.....	WNW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.73	755.1	30.00	762.0	61.4	16.3	.....	WSW	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.87	758.7	29.91	759.7	71.6	22.0	.....	S	7	3.1	.....	.....	3	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum.	29.66	753.4	29.91	759.7	65.1	18.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.78	756.4	29.86	758.4	85	29.4	.....	E	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.84	757.9	29.94	760.5	58	14.4	.....	ENE	.....	.....	4	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.99	761.7	86.0	30.0	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham Observatory	29.73	755.1	29.92	760.0	67.8	19.9	.....	SE	.....	.....	3	.....	10k	.....	SSE	0.028	0.71	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.40	746.7	29.91	759.7	62.0	16.7	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.88	758.9	70	21.1	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	Misty	H. E. Bellamy.
Plymouth	29.86	758.4	29.93	760.2	65.5	18.6	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.81	757.2	29.94	760.5	66	18.9	.....	S	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.75	755.6	29.91	759.7	61	16.1	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.98	761.5	57.8	14.3	.....	E	10	4.5	.....	.....	5	.....	.....	0	0	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.75	755.6	29.81	757.2	87.0	30.6	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.68	753.9	29.96	761.0	64.0	17.8	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.87	758.7	29.90	759.4	69.4	20.8	68	Calm	.....	.....	0	.....	3	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.90	759.4	67.9	19.9	.....	E	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	78.5	25.8	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.95	760.7	29.96	761.0	68	20.0	.....	S	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.82	757.4	29.84	757.9	59.2	15.1	.....	NNW	14	6.3	.....	.....	6	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.05	763.3	30.09	764.3	62.6	17.0	.....	NW	6.0	2.7	.....	0	4	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.94	760.5	58.5	14.7	.....	E	.....	.....	2	.....	5k	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.1	72.3	22.4	72	ESE	11.0	4.9	.....	1	4	.....	ESE	0.07	1.8	Fine	C. Meldrum.
Melbourne, Observatory	29.68	753.9	29.78	756.4	52.0	11.1	75	N	19	8.5	.....	.....	9	.....	.....	0	0	Threatening	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.80	655.3	.....	.....	71.5	21.9	.....	WNW	.....	.....	.....	1cs	1cs	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
H. M. S. "Fawn," N. 40° 50', E. 29° 10'	WSW	2	D. clouds	Capt. W. J. L. Wharton.
Algeria, N. 40° 55', W. 62° 05'	W	2	D. clouds	Capt. Wm. Watson.
Atmosphere, N. 50° 20' W. 1° 30'	WSW	2	Foggy	
German Brig "W. von Freeden" N. 41° 55', W. 49° 15'	Calm	0	Foggy	Capt. H. v. Freeden.
Theophane, N. 34° 50', W. 35° 20'	E	2	D. clouds	Capt. Greig.
S. S. Amanda				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
S. S. Royal Alexandra				W. P. Hughes.
Brig Alliance				Capt. W. Scott.
S. S. Iron Cross				Capt. W. Randall.
S. S. Nizam				Capt. Barlow.
Barque Fedalma				Capt. H. L. Fox.
British Peer				Capt. Raymond.
Astarte				Capt. Parson.
Agnes Wilson				Capt. H. W. Dyke.
Gordon Castle				
Barque Commewyne				Capt. A. Buchan.
.....				
.....				

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and réduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	67.6	19.8	93	SE	.....	.....	1	.....	9d	.....	NE	1.2	30.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.06	763.5	30.11	764.7	63.1	17.3	87	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29.98	761.6	30.00	762.1	67.1	19.5	89	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.67	753.5	29.71	754.6	44.8	7.1	77	S	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.86	758.4	29.90	759.5	55.0	12.8	78	S	.....	.....	4	.....	8	.....	.....	.....	.....	.....	Raining
Thorshavn (Farõe)	30.03	762.7	30.07	763.6	61.1	16.6	94	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Foggy
Vestervig	29.93	760.3	30.04	763.1	68.2	20.1	92	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.45	748.1	30.00	762.1	73.0	22.8	81	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.89	759.2	30.00	761.9	75.2	24	62	WNW	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.69	754.0	29.93	760.3	70.9	21.6	53	NW	.....	.....	1	.....	.....	.....	NW	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.79	756.7	29.87	758.7	89.6	32	44	NE	.....	.....	2	.....	5	.....	SSE	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.39	746.4	29.91	759.8	76.6	24.8	60	NNE	.....	.....	1	.....	5ck	NNW	W	0.075	1.9	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.69	754.1	29.94	760.5	76.1	24.5	56	W	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.08	738.6	29.93	760.2	78.1	25.6	58	NE	.....	.....	1	.....	5	NE	.....	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.07	738.4	30.00	762.1	81.0	27.2	61	N	.....	.....	1	.....	5cn	N	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.42	747.2	29.95	760.7	73.4	23	83	N	.....	.....	1	.....	k	.....	NE	.....	.....	.....	M. Gence, Director.
Brest, Naval Observatory	29.69	754.0	29.93	760.2	69.4	20.8	72	SW	.....	.....	1	.....	8	.....	SW	0	0	.....	Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.59	751.6	29.99	761.7	79.6	26.6	53	W	.....	.....	2	.....	2	W	W	0	0	Slightlycl'dy	September, Dir.
Caen, Normal School	29.85	758.3	29.93	760.2	71.6	22	69	N	.....	.....	1	.....	5	.....	W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.34	745.2	29.89	759.3	69.8	20.7	69	S	.....	.....	1	.....	8	.....	SSE	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.7	29.98	761.5	77.4	25.2	50	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.7	29.85	758.2	81.3	27.4	65	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.11	739.5	29.93	760.1	77.5	25.3	60	E	.....	.....	1	.....	5cs	E	E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.6	29.98	761.6	90.0	32.2	25	S	.....	.....	2	.....	8	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.15	740.5	29.88	759.0	79.9	26.6	73	NE	.....	.....	1	.....	10	.....	W	0	0	Covered	Abiard, Director.
La Roche-sur-Yon, N. School	29.82	757.5	30.03	762.8	74.8	23.8	77	NW	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.67	753.7	29.97	761.2	74.8	23.8	58	NW	.....	.....	1	.....	5	.....	WSW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.62	737.2	29.90	759.5	78.8	26	63	N	.....	.....	3	.....	k	N	N	0	0	.....	A. Baudry, Director.
Lorient, Naval Observatory	29.91	759.6	30.01	762.2	66.9	19.4	67	SW	.....	.....	1	.....	.....	.....	SW	0	0	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.30	744.2	29.88	759.0	82.4	28.0	57	NNE	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.61	752.0	29.87	758.6	88.3	31.3	39	S	.....	.....	0–1	.....	4	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.91	734.2	29.90	759.5	75.4	24.1	67	N	.....	.....	1	5c	.....	SSW	SSW	.....	.....	Cloudy	Barbier, Director.
Mont-Louis	24.92	633.1	30.24	768.1	66.2	19.0	61	E	15.0	6.7	.....	.....	10	.....	.....	0.071	1.8	Raining	M. Clave.
Nice	29.88	758.9	29.91	759.8	81.7	27.6	75	SW	.....	.....	1	.....	2	SW	SW	0	0	Slightly cl'dy	M. Boissieré, Director.
Nismes, Normal School	29.66	753.3	29.84	758.0	90.3	37.4	38	S	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.67	753.7	75.7	24.3	63	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.04	675.0	.....	.....	53.2	11.8	.....	SE	.....	.....	2	.....	1	SW	SE	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.78	756.5	29.89	759.1	83.6	28.6	49	E	1.8	0.8	.....	.....	0	.....	.....	0	0	Smoky	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.25	641.4	.....	.....	60.4	15.8	85	S	.....	.....	1	.....	8	.....	.....	0.012	0.3	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	78.4	25.8	61	W	.....	.....	1	.....	10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.87	758.8	29.96	760.9	74.7	23.7	61	N	.....	.....	1	.....	2	.....	SW	0	0	Slightlycl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.93	760.3	29.97	761.1	63.7	17.6	80	NNW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.78	756.4	29.95	760.7	74.1	23.4	65	NW	.....	.....	0–1	.....	10	.....	SW	0.126	3.2	.....	E. Renou, Director.
Tarbes, Normal School	28.99	736.4	30.04	763.0	73.4	23	74	NW	.....	.....	1	.....	2	NW	SSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.30	744.3	30.03	762.7	73.0	22.8	71	WNW	.....	.....	3	.....	9	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.74	755.5	29.94	760.5	69.2	20.6	54	NE	.....	.....	1	.....	10	.....	W	0	0	Threatening	Cousin-Marquet.
Versailles, Observatory	29.48	748.9	29.96	761.4	75.2	24.0	61	N	.....	.....	1	.....	.....	.....	.....	0.053	1.34	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.21	741.8	29.87	758.8	85.1	29.5	64	NNE	.....	.....	1	.....	2	.....	N	0	0	Slightlycl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.1	29.87	758.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.74	755.4	29.77	756.1	84.2	29.0	88	SSE	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.1	29.98	761.5	72.9	22.7	49	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.93	760.2	30.10	764.4	71.4	21.9	66	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.58	751.2	30.11	764.7	63.0	17.2	82	NNW	.....	.....	2	.....	4	.....	.....	0	0	.....	Royal University Obs'y.
Carlsruhe	29.49	749.0	29.89	759.3	77.7	25.4	58	NE	.....	.....	1	.....	9	SW	.....	0	0	.....	Albert Sens.
Cassel	29.41	746.9	30.01	762.3	75.6	24.2	66	ESE	.....	.....	2	.....	7	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	83.1	28.4	48	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.93	760.1	71.4	21.9	76	SE	.....	.....	1	.....	9	.....	.....	0.157	4.0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.59	751.6	29.95	760.7	76.1	24.5	.....	ENE	.....	.....	2	.....	9	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	30.09	764.2	30.13	765.4	72.3	22.4	73	NNW	.....	.....	2	.....	6ks	N	.....	0	0	.....	Dr. Assmann.
Friedrichshafen	28.51	724.2	29.89	759.2	71.6	22.0	70	SW	.....	.....	4	.....	3	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.98	761.4	30.05	763.2	65.5	18.6	84	SE	.....	.....	4	.....	10s	.....	.....	0	0	Hazy	Captain F. Hegemann.
Kiel	30.03	762.8	30.05	763.2	68.5	20.3	81	ESE	.....	.....	1	.....	10	.....	.....	0.011	0.27	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.98	761.4	30.06	763.5	65.5	18.6	59	NE	.....	.....	3	.....	2	.....	.....	0.004	0.1	.....	Prof. E. Luther.
Köslin	.....	.....	30.07	763.7	67.8	19.9	.....	N	.....	.....	4	.....	2	.....	.....	0.118	3.0	.....	H. Müller.
Leipsic Observatory	29.63	752.7	30.04	763.0	75.4	24.1	56	E	.....	.....	2	.....	8	E	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	30.03	762.7	30.08	763.9	65.5	18.5	39	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Clear	Skalweit.
Munich (München)	28.16	715.3	30.02	762.6	73.4	23.0	50	NE	.....	.....	5	.....	1	W	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	30.10	764.4	30.11	764.8	64.0	17.8	74	N	.....	.....	3	.....	5	N	.....	0	0	.....	A. Lothes.
Posen	29.77	756.1	30.05	763.3	64.4	18.0	75	NW	.....	.....	5	.....	5	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.39	746.4	29.91	759.6	79.0	26.1	44	NE	.....	.....	1	.....	9	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.99	736.4	29.88	759.0	79.7	26.5	42	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.5	29.93	760.2	73.4	23.0	48	E	7	3	.....	4c	.....	.....	.....	0	0	.....	T. Hopfner.
Wustrow	30.08	764.0	30.10	764.6	68.9	20.5	76	E	.....	.....	2	.....	5s	.....	.....	0	0	.....	E. Schütz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	28.67	728.1	29.82	757.5	88.3	31.8	.....	NE	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.9	29.53	750.1	81.3	27.4	76	WNW	21.0	9.4	.....	.....	9	SW	.....	0	0	D. clouds	
Deesa	29.10	739.2	29.58	751.2	77.5	25.3	91	WNW	15.7	7.0	.....	9	.....	.....	W	0.66	16.8	D. clouds	
Bombay	29.66	753.3	29.70	754.3	78.6	25.9	92	WSW	10.0	4.5	.....	.....	.....	.....	S	1.34	34.0	Overcast	
Poona	27.84	707.2	29.71	754.6	72.4	22.4	88	W	17.0	7.6	.....	.....	10	.....	W	0.51	13.0	Drizzling	
Lahore	28.71	729.2	29.42	747.2	97.0	36.1	45	NE	3.5	1.6	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.25	692.1	29.82	757.3	68.8	20.4	97	W	13.0	5.8	.....	.....	10	.....	W	0.92	23.4	Drizzling	
Roorkee	28.65	727.6	29.53	750.2	80.8	27.1	79	E	4.4	2.0	.....	.....	5	.....	.....	0.06	1.5	Showery	
Agra	28.94	735.1	29.50	749.4	80.7	27.1	91	E	.....	.....	.....	.....	4	.....	.....	0	0	.....	
Nagpur	28.55	725.1	29.57	751.2	79.2	26.2	85	Calm	5.9	2.6	.....	.....	9	.....	E	0.11	2.8	Gloomy	
Lucknow	29.16	740.7	29.54	750.2	79.3	26.3	95	Calm	3.4	1.5	.....	.....	10	.....	.....	1.21	30.7	Overcast	
Allahabad	29.24	742.8	29.55	750.6	81.5	27.5	89	E	0.9	0.4	.....	.....	9	.....	E	0.11	2.8	D. clouds	
Patna	29.38	746.3	29.56	750.8	81.1	27.3	81	E	1.6	0.7	.....	.....	10	E	E	1.35	34.3	Overcast	
Hazaribagh	27.58	700.6	29.58	751.4	76.8	24.9	86	SE	4.6	2.1	.....	.....	10	.....	.....	0.05	1.3	Showery	
Cuttack	29.50	749.2	29.58	751.3	82.8	28.2	79	S	2.0	0.9	.....	.....	6	.....	.....	0.27	6.9	D. cloud	
Calcutta (Alipore)	29.52	751.6	29.61	752.2	81.7	27.6	87	S	5.0	2.2	.....	.....	7	S	.....	0	0	D. clouds	
Goalpara	29.25	742.8	29.64	752.7	76.1	24.5	95	ENE	4.2	1.9	.....	.....	10	.....	.....	0.90	22.9	Overcast	
Chittagong	29.65	753.0	29.74	755.3	78.7	25.9	91	Calm	6.8	3.0	.....	.....	9	.....	.....	0	0	Gloomy	
Sibsagar	29.34	745.2	29.67	753.6	83.7	28.7	80	WSW	2.9	1.3	.....	.....	10	.....	.....	0.79	20.1	D. clouds	
Jubbulpore	28.20	716.1	29.55	750.6	78.3	25.7	87	Calm	4.8	2.2	.....	.....	10	.....	W	0	0	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r —10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.57	751.1	29.97	761.1	81.0	27.2	43	S	1.8	0.8	.....	.....	8	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.41	747.0	29.90	759.5	85.5	29.7	38	E	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.83	757.7	29.94	760.4	80.6	27.0	60	ESE	11.2	5.0	.....	.....	4	NNW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.04	737.5	29.90	759.5	79.9	26.6	54	NNW	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.71	754.7	29.90	759.4	81.7	27.6	67	SW	3.8	1.7	.....	.....	8	NE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.03	713.3	29.91	759.8	70.0	21.1	76	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.86	758.5	29.91	759.7	81.1	27.3	45	E	21.0	9.4	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.61	752.2	29.86	758.4	90.5	32.5	37	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.79	756.6	29.87	758.6	81.7	27.6	68	W	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.72	755.0	29.89	759.3	88.0	31.1	41	SW	11.9	5.3	.....	.....	7	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.2	29.90	759.4	80.8	27.1	35	WNW	15.0	6.7	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.0	29.85	758.3	87.6	30.9	62	NW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.62	752.4	29.81	757.1	84.7	29.3	49	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.66	753.4	29.91	759.6	81.0	27.2	71	E	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.82	757.5	29.89	759.3	86.4	30.2	66	SSE	6.3	2.8	.....	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.38	746.2	29.93	760.3	87.3	30.7	44	NW	0	0	.....	.....	5	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.8 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.72	754.9	29.73	755.1	80.3	26.8	72	NNE	5.3	2.4	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.61	752.1	29.80	756.9	81.8	27.8	92	SSW	1.8	0.8	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.58	751.3	29.64	752.8	80.0	26.7	82	SSW	4.4	2.0	.....	2cs;2k	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.65	753.1	29.70	754.4	81.0	27.2	84	ENE	3.0	1.3	.....	.....	1ck;s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.4	30.04	763.0	69.9	15.5	80	NE	.....	.....	1	.....	10	.....	E	0.49	12.4	Covered	Prof. L. Perez.
Leon	24.43	620.6	30.06	763.5	63.5	17.5	90	S	.....	.....	2	.....	10n	.....	SE	0.08	2.1	Covered	Prof. M. Leal.
Mexico, Central Obs'y	28.07	585.9	30.04	762.9	56.3	13.5	85	Calm	0	0	.....	9k	0	N	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.5	16.4	96	Calm	.....	.....	0	.....	10n	.....	N	1.10	27.9	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.92	760.0	29.93	760.3	78.8	26.0	91	S	.....	.....	2	3	0	Calm	.....	Inap.	Inap	Clear	Prof. M. M. Chazaro.
San Luis Potosi	24.20	614.6	30.13	765.2	60.4	15.8	55	E	.....	.....	1	3	10	W	E	0.10	2.5	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel[1]
Zacatecas	22.57	573.3	30.12	765.1	67.4	14.1	93	Calm	.....	.....	0	3c	3s	.....	.....	0.83	21.0	½ clouded	A. Nuñez.
Puebla (Catholic Institute)	23.43	595.1	30.15	765.7	55.4	13.0	83	E	1.3	0.6	.....	.....	7ck	.....	N	0.13	3.2	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.60	751.8	29.88	759.0	76.5	24.7	98	SE	.....	.....	2	1cs	8n	Calm	E	0.17	4.3	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,536.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.6	29.95	760.0	74.7	23.7	.....	NNE	.....	.....	1	.....	.....	.....	.....	0.063	1.6	.....	
Groningen	29.91	759.6	29.96	761.0	71.5	22.1	.....	E	.....	.....	1	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.92	760.0	29.92	760.0	69.3	20.7	.....	E	.....	.....	1	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	29.93	760.1	29.93	760.1	77.2	25.1	74	N	.....	.....	1	.....	.....	.....	.....	0.205	5.2	.....	
Utrecht	29.89	759.3	29.94	760.5	77.5	25.3	56	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.98	761.5	30.04	762.9	72.0	22.2	69	Calm	0	0	.....	.....	1	.....	.....	0.118	3.0	.....	
Brönö	30.00	762.1	30.04	763.1	66.2	19.0	58	N	9	4	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.93	760.2	30.07	763.8	73.4	23.0	66	WSW	4	2	.....	.....	8	.....	.....	0	0	.....	
Tromsö	30.04	763.0	30.08	764.1	58.3	14.6	63	NE	4	2	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.19	766.8	30.37	771.5	72.1	22.3	76	NE	15.4	6.9	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.9	29.93	760.3	88.9	31.6	27	W	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	763.1	30.13	765.3	75.0	23.9	73	SW	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.0	30.04	762.9	77.6	25.3	41	N	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.29	769.4	30.38	771.6	73.0	22.8	84	NE	8.7	3.9	.....	.....	3	.....	.....	0.028	0.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.4	67.1	19.5	.....	NW	.....	.....	2	.....	10	.....	NW	1	NW	Overcast	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	30.01	762.2	77.0	25.0	.....	NE	.....	.....	4	.....	3	.....	NE	2	NE	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A. de Brito Capello, S. 1° 24', E. 1° 12'	.....	.....	29.98	761.6	68 9	20.5	.....	SSW	.....	.....	3	.....	0	.....	.....	2	SW	Blue sky	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimarães. Macao, China	.....	.....	29.95	760.8	82.9	28.3	.....	SW	.....	.....	2	.....	2	.....	SW	1	.....	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.59	751.6	30.00	762.0	65.7	18.7	62	NNE	7	3	.....	.....	4ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.67	751.1	29.98	761.5	62.8	17.1	53	N	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.86	758.4	30.10	764.5	62.1	16.7	42	ENE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Welhrauch.
St. Petersburg	30.00	761.9	30.01	762.3	61.9	16.6	57	WNW	2	1	.....	.....	3k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.03	737.4	29.72	755.0	63.0	17.2	76	N	13	6	.....	.....	8k;cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.59	751.6	29.66	753.4	63.1	17.3	82	N	9	4	.....	.....	10n	.....	.....	.....	.....	Thunder-storm	Kurdakof.
Kertch	29.60	751.8	29.62	752.3	77.0	25.0	74	S	4	2	.....	.....	7	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.28	743.8	29.52	757.5	56.7	13.7	80	N	10.1	4.5	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.27	743.5	29.47	748.5	65.1	18.4	87	ESE	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.84	757.8	29.85	758.3	44.8	7.1	93	NW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.22	716.7	29.53	750.1	86.5	30.3	36	N	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.67	753.6	29.59	751.5	83.3	28.5	45	WSW	2	1	.....	.....	1ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.14	740.1	29.58	751.4	73.9	23.3	53	N	2	1	.....	.....	10k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.35	745.6	29.61	752.2	61.7	16.5	76	NW	2	1	.....	.....	9cs	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.71	729.2	29.64	752.8	63.3	17.4	85	E	4	2	.....	.....	9kn	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.31	744.5	29.53	750.0	91.2	32.9	29	NNW	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.02	711.8	29.47	748.5	88.5	31.4	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.26	743.2	29.74	755.5	61.3	16.3	63	S	2	1	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.50	749.4	29.79	756.6	50.9	10.5	91	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.50	749.2	29.64	752.8	80.4	26.9	66	NW	7	3	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.48	748.7	29.58	751.2	69.8	21.0	97	S	11	5	.....	.....	9n	.....	.....	Blank	Blank	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.4	29.88	758.9	84.7	29.3	47	SSE	2.8	1.25	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.98	761.4	30.03	762.8	79.9	26.6	56	N	3.4	1.54	.....	3	2	SW	.....	0	0	Cloudy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.07	687.5	.....	.....	76.1	24.5	37	N	4.8	2.17	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.78	705.5	29.85	758.2	86.5	31.4	26	SE	5.2	2.33	.....	0	1	.....	.....	0	0	Clouds	The Staff.
Murcia, Met. Obs'y	29.76	755.8	29.90	759.4	96.6	35.9	32	SE	3.5	1.56	.....	0	4	.....	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.16	740.6	30.03	762.7	70.5	21.4	78	SW	7.4	3.3	.....	0	9	.....	.....	0.004	0.1	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.6	29.97	761.2	81.7	27.6	83	Calm	0	0	.....	7c	1k	W	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.88	759.0	29.93	760.3	80.6	27.0	84	NE	0	0	.....	.....	4s	.....	W	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.86	758.3	29.95	760.7	85.1	29.5	50	W	9.1	4.1	.....	0	1	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.92	759.9	30.01	762.2	78.4	25.8	86	SE	10.1	4.50	.....	6kc	4ks	SE	SE	0.384	9.76	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.08	763.9	30.11	764.9	67.2	19.0	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.02	762.5	30.07	763.8	71.2	21.8	63	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	30.03	762.8	30.08	764.1	71.2	21.8	71	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.93	760.1	30.10	764.6	67.6	19.8	55	WNW	.....	.....	2	.....	3	.....	.....	0.004	0.1	.....	
Wisby	30.02	762.6	30.08	764.1	60.4	15.8	81	N	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.02	762.4	30.10	764.6	68.0	20.0	56	SSW	2.9	1.3	.....	.....	5	.....	.....	0.002	0.06	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.52	724.4	29.88	758.9	77.9	25.5	55	NNW	.....	.....	3	.....	2	.....	.....	0	0	Clear	The Observatory.
Zurich	28.31	719.7	29.89	759.3	78.4	25.8	59	W	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.4 mm.; Thermometer, +3.7 Cent.; Relative Humidity, 0 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.7	77.0	25.0	45	NE	9	4.0	.....	.....	2	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.2	82.0	27.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751.6	29.71	754.5	90.0	32.2	55	SW	.....	.....	3	.....	1k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.75	755.6	29.81	757.2	61	10.6	69	W	12	5.4	.....	0	0	.....	.....	0.14	3.6	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.78	756.4	55	12.8	63	W	10	4.5	.....	0	2s	.....	W	0.110	2.79	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	61.3	10.7	84	N	.....	.....	1	8cs	0	W	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	50	10.6	65	W	.....	.....	1	0	0	.....	.....	0.17	4.3	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.88	758.9	29.90	759.4	51	10.6	68	W	20	8.9	.....	0	2s	.....	Calm	Inap.	Inap.	Clear	J. McWilliams.
Fredericton, N. B	29.85	758.2	29.91	759.7	52.1	11.2	64	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.36	746.2	30.20	767.1	54	12.2	100	NE	4	1.8	.....	Haze	Fog	.....	.....	0	0	Foggy	James Stewart.
Granton, Ontario	28.96	735.6	30.06	763.5	52	11.1	79	E	.....	.....	1	1cs	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.69	754.1	29.82	757.4	61	16.1	73	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.10	764.5	55.7	13.2	71	E	.....	.....	3	10ck	0	W	.....	0.003	0.13	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	E. Weedon.
*Kingston, Ontario	29.77	756.1	30.10	764.5	53	11.7	72	NE	14	6.3	.....	10cs	0	NE	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.66	753.4	29.70	754.4	64.5	18.1	61	SW	4	1.8	.....	4k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.88	758.9	30.08	764.0	53	11.7	69	Calm	0	0	.....	0	2s	.....	.....	0.03	0.8	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.47	748.5	30.17	766.3	48	8.9	78	NE	13	5.8	.....	5cs	0	NE	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.10	764.5	51.2	10.7	98	NE	.....	.....	5	.....	10	.....	.....	0.04	1.0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.36	745.7	30.05	763.8	54	12.2	93	NE	10	4.5	.....	10k	0	SW	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.77	756.1	64.1	17.8	.....	W	8	3.6	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.04	763.0	54	12.2	81	NE	8	3.6	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec	29.70	754.4	30.03	762.7	48	8.9	85	NW	.....	.....	1	0	0	.....	.....	0.09	2.3	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.73	755.1	30.19	766.8	48	8.9	81	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.90	759.4	52	11.1	59	N	.....	.....	3	0	0	.....	.....	0.06	1.5	Clear	Dr. Gove.
St. John, N. B	29.72	754.9	29.88	758.9	52	11.1	66	N	12	5.4	.....	0	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.12	765.0	52	11.1	75	NE	8	3.6	.....	8cs	0	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	753.6	29.71	754.6	68	20.0	78	SW	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.73	755.1	30.11	764.8	52	11.1	64	NE	9	4.0	.....	8cs	2s	W	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.79	756.7	29.81	757.2	63.0	17.2	72	NW	5	2.2	.....	0	0	.....	.....	0.13	3.3	Clear	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.74	755.4	29.98	761.5	64.0	17.8	89	S	.....	.....	.....	.....	10n	.....	.....	0	0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.82	757.4	30.05	763.3	57	13.9	52	N	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Alpena, Michigan	29.52	749.8	30.17	766.3	52	11.1	66	NE	14	6.3	.....	.....	8s	.....	NE	0.02	0.5	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	100	SW	8	3.6	.....	.....	10s	.....	SW	0.17	4.3	Cloudy	
Atlanta, Georgia	28.80	731.5	29.90	759.4	72	22.2	90	SE	8	3.6	.....	.....	10s	.....	SE	0.03	0.8	Cloudy	
Atlantic City, New Jersey	29.96	761.0	29.98	761.5	71	21.7	85	NE	11	4.9	.....	.....	10s	.....	W	0	0	Cloudy	
Augusta, Georgia	29.82	757.4	30.01	762.2	77	25.0	77	NW	2	0.9	.....	0	8s	.....	SW	0.03	0.8	Fair	
Baltimore, Maryland	29.94	760.5	29.98	761.5	73	22.8	63	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	67	19.4	89	N	5	2.2	.....	.....	Fog	.....	W	0	0	Foggy	
Bismarck, Dakota	28.38	720.8	30.24	768.1	50	10.0	86	N	1	0.4	.....	0	1ks	.....	Calm	0	0	Clear	
Boerne, Texas	28.51	724.1	29.76	755.9	74	23.3	81	SW	1	0.4	.....	8k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	64	17.8	43	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Dense smoke	
Boston, Massachusetts	29.84	757.9	30.00	762.0	65	18.3	63	N	11	4.9	.....	5c	0	W	.....	0	0	Fair	
Brackettville, Texas	28.79	731.3	29.78	756.4	77	25.0	69	SE	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Breckenridge, Minnesota	29.14	740.1	30.14	765.5	49	9.4	100	NW	1	0.4	.....	5ck	Fog	NW	Calm	0	0	Foggy	
Brownsville, Texas	29.85	758.2	29.89	759.2	78	25.6	86	SE	1	0.4	.....	2ck	0	SE	.....	0.01	0.3	Clear	
Buffalo, New York	29.35	745.5	30.04	763.0	56	13.3	69	NE	10	4.5	.....	.....	10s	.....	SW	0.22	5.6	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	45	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.78	756.4	30.07	763.8	53	11.7	54	N	5	2.2	.....	8ck	0	W	.....	0.05	1.3	Fair	
Cairo, Illinois	29.48	748.8	29.86	758.4	74	23.3	90	S	4	1.8	.....	.....	10s	.....	S	0.08	2.0	Cloudy	
Campo, California	27.38	695.4	29.96	761.0	55	12.8	68	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.7	78	25.6	86	SW	12	5.4	.....	1cs	0	Calm	.....	0	0	Clear	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	76	24.4	73	S	10	4.5	.....	10cs	0	S	.....	0	0	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.02	762.5	79	26.1	82	SW	12	5.4	.....	5k	0	SW	.....	0	0	Fair	
Cape May, New Jersey	29.92	760.0	29.95	760.7	73	22.8	81	E	9	4.0	.....	10cs	0	W	.....	0	0	Cloudy	
Castroville, Texas	29.17	740.9	29.85	758.2	76	24.4	90	Calm	0	0	.....	2ck	0	Calm	.....	0.01	0.3	Fair	
Charleston, South Carolina	29.93	760.2	29.98	761.5	82	27.8	79	S	2	0.9	.....	2k	0	Calm	.....	0	0	Fair	
Charlotte, North Carolina	29.17	740.9	29.95	760.7	69	20.6	95	NW	3	1.3	.....	.....	10n	.....	W	0.14	3.6	Light rain	
Chattanooga, Tennessee	29.16	740.7	29.92	760.0	69	20.6	95	NE	2	0.9	.....	.....	10n	.....	Calm	0.37	9.4	Heavy rain	
Cheyenne, Wyoming	24.27	616.4	30.21	767.3	54	12.2	67	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.28	743.7	29.94	760.5	66	18.9	84	E	7	3.1	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.28	743.7	29.91	759.7	70	21.1	85	SE	1	0.4	.....	.....	10s	.....	S	0.91	23.1	Threatening	
Cleveland, Ohio	29.27	743.4	29.98	761.5	64	17.8	78	E	6	2.7	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.14	714.7	29.74	755.4	70	21.1	80	W	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.11	739.4	29.91	759.7	68	20.0	70	E	5	2.2	.....	.....	10s;sn'	.....	SE;Calm	0	0	Cloudy	
Concho, Texas	28.08	713.2	29.70	754.4	69	20.6	75	Calm	0	0	.....	5k?	8ks?	Calm	Calm	0	0	Fair	
Corsicana, Texas	29.42	747.3	29.86	758.4	76	24.4	77	NW	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Davenport, Iowa	29.34	745.2	29.97	761.2	61	16.1	82	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Deadwood, Dakota	25.59	650.0	.....	.....	51	10.6	86	Calm	0	0	.....	5k;hz	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.74	730.0	29.85	758.2	72	22.2	76	NW	15	6.7	.....	2c	2k	N	N	0	0	Fair	
Denison, Texas	29.09	738.9	29.86	758.2	71	21.7	90	NW	4	1.8	.....	2cs	5s	NW	NW	0	0	Fair	
Denver, Colorado	25.00	635.0	30.22	767.6	56	13.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.12	739.6	29.98	761.5	63	17.2	89	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.35	745.5	30.00	762.0	59	15.0	88	NE	8	3.6	.....	.....	10n	.....	NE	0.02	0.5	Light rain	
Dodge City, Kansas	27.45	697.2	29.66	753.4	64	17.8	83	NW	12	5.4	.....	5ck	0	NW	.....	0	0	Fair	
Dubuque, Iowa	29.34	745.2	30.03	762.7	58	14.4	76	N	8	3.6	.....	.....	10ks	.....	NE	0.29	7.4	Cloudy	
Duluth, Minnesota	29.61	749.5	30.18	766.6	58	14.4	76	NE	6	2.7	.....	5k	5s	N	Calm	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.18	741.1	29.88	758.9	76	24.4	91	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.86	758.4	29.92	760.0	52	11.1	60	NW	15	6.7	.....	0	0	.....	.....	0.22	5.6	Clear	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.30	668.0	.....	.....	69	20.6	56	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.29	744.0	29.98	761.5	65	18.3	73	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.53	750.0	30.19	766.8	52	11.1	79	N	13	5.8	.....	2ck	0	N	.....	0	0	Fair	
Florence, Arizona	28.33	719.6	29.03	760.2	73	22.8	43	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.16	715.3	30.00	762.0	50	10.0	86	E	6	2.7	.....	1c	Sm'e	Calm	Calm	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	64	17.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.34	745.2	29.85	758.2	69	20.6	90	NW	13	5.8	.....	0	5s	.....	N	0.60	15.2	Fair	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	74	23.3	29	NW	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Fort Griffin, Texas	28.75	730.2	29.98	761.5	69	20.6	80	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.58	700.5	.....	.....	57	13.9	75	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Fort McKavett, Texas	27.74	704.6	29.58	751.3	72	22.2	71	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.74	730.0	29.82	757.4	64	17.8	89	N	12	5.4	.....	10ck	0	Calm	.....	Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	28.36	720.3	.....	.....	50	10.0	93	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	66	18.9	50	NW	.....	.....	1	1k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.55	750.6	78	25.6	65	N	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.90	759.4	29.95	760.7	79	26.1	91	SW	5	2.2	.....	Haze	2ks	Calm	SW	0	0	Clear	
Graham, Texas	28.87	733.3	29.85	758.9	70	21.1	75	NW	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Grand Haven, Michigan	29.40	746.7	30.04	763.0	58	14.4	76	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.01	736.8	29.91	759.7	67	19.4	84	NW	9	4.0	.....	0	8s	.....	NW	0	0	Cloudy	
Indianapolis, Indiana	29.14	740.1	29.89	759.2	68	20.0	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.95	760.7	29.98	761.5	79	26.1	87	S	4	1.8	.....	0	1ks	.....	S	Inap.	Inap.	Clear	
Jacksboro, Texas	28.82	732.0	29.91	759.7	69	20.6	80	N	12	5.4	.....	8c	0	N	.....	0	0	Fair	
Jacksonville, Florida	29.96	761.0	29.98	761.5	79	26.1	82	SE	3	1.3	.....	2cs	0	SW	.....	Inap.	Inap.	Fair	
Keokuk, Iowa	29.29	744.0	29.88	758.9	63	17.2	94	NE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Key West, Florida	29.95	760.7	29.98	761.5	85	29.4	76	E	5	2.2	.....	5k	0	E	.....	0.06	1.5	Fair	
Kittyhawk, North Carolina	29.91	759.7	29.94	760.5	77	25.0	82	NW	10	4.5	.....	5c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	29.95	760.7	67.5	19.7	95	SW	1	0.4	.....	.....	10n	.....	SW	0.30	7.6	Light rain	
La Crosse, Wisconsin	29.34	745.2	30.06	763.5	57	13.9	81	NE	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear	
La Mesilla, New Mexico	26.14	663.9	30.30	769.6	65	18.3	54	Calm	0	0	.....	0	5s	.....	N	0	0	Fair	
Laredo, Texas	29.51	749.5	29.84	757.9	76	24.4	52	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.92	760.0	64	17.8	89	N	1	0.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Dense fog	
Little Rock, Arkansas	29.56	750.8	29.91	759.7	68	20.0	95	SW	4	1.8	.....	.....	10n	.....	SW	1.30	33.0	Heavy rain	
Los Angeles, California	29.53	750.0	29.86	758.4	64.5	18.1	89	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.88	758.9	70	21.1	85	NE	2	0.9	.....	2k	8s	Calm	Calm	0.51	13.0	Cloudy	
Lynchburg, Virginia	29.30	744.2	29.95	760.7	73	22.8	76	NE	2	0.9	.....	10cs	0	SW	.....	0	0	Cloudy	
Madison, Wisconsin	29.04	737.6	30.01	762.2	59	15.0	82	NE	12	5.4	.....	.....	10s	.....	NE	0.16	4.1	Cloudy	
Marquette, Michigan	29.49	749.0	30.19	766.8	55	12.8	86	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.35	720.1	30.03	762.7	75	23.9	64	NW	6	2.7	.....	10cs	0	NW	.....	0	0	Cloudy	
Memphis, Tennessee	29.54	750.3	29.87	758.7	71	21.7	90	SE	7	3.1	.....	.....	10n	.....	SE	Inap.	Inap.	Light rain	
Milwaukee, Wisconsin	29.30	744.2	30.01	762.2	62	16.7	72	NE	15	6.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Mobile, Alabama	29.90	759.4	29.94	760.5	73	22.8	95	NW	4	1.8	.....	.....	10s	.....	N	3.79	96.3	Cloudy	
Montgomery, Alabama	29.71	754.6	29.94	760.5	73	22.8	95	SE	3	1.3	.....	.....	10s;fg	.....	Calm	0.15	3.8	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	28.97	735.8	29.92	760.0	70	21.1	85	Calm	0	0	.....	8k	0	SW	.....	0.25	6.3	Cloudy.....	
Mt. Washington, N. H.	23.74	603.0	30.10	764.5	32	0.0	41	NW	35	15.6	.....	5c	2cs	NW	NW	0.08	2.0	Fair.....	
Nashville, Tennessee	29.42	747.3	29.93	760.2	70	21.1	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	29.86	758.4	29.98	761.5	67	19.4	74	N	8	3.6	.....	8ck	Haze	Calm	Calm	0.47	11.9	Fair.....	
New London, Connecticut	29.92	760.0	29.97	761.2	69	20.6	65	N	5	2.2	.....	1ch	Haze	SW	Calm	Inap.	Inap.	Clear.....	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	78	25.6	86	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair.....	
Newport, Rhode Island	29.93	760.2	29.98	761.5	68	20.0	65	N	8	3.6	.....	5c	Sm'e	W	.....	Inap.	Inap.	Fair.....	
New York, New York	29.83	757.7	30.00	762.0	71	21.7	67	N	4	1.8	.....	2ck	Haze	E	Calm	0.83	21.1	Hazy.....	
Norfolk, Virginia	29.93	760.2	29.99	761.7	77	25.0	73	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
North Platte, Nebraska	27.22	691.4	29.76	755.9	57	13.9	87	NE	8	3.8	.....	0	Haze	.....	Calm	0	0	Hazy.....	
Olympia, Washington Ter.	29.99	761.7	30.03	762.7	51.5	10.8	90	N	1	0.4	.....	0	8mc;fg	.....	Calm; NE	0	0	Clear.	
Omaha, Nebraska	28.87	733.3	29.93	760.2	62	16.7	94	N	12	5.4	.....	.....	10s	.....	N	0.29	7.4	Cloudy.....	
Oswego, New York	29.75	755.6	30.07	763.8	56	13.3	63	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.27	743.4	30.10	764.5	48	8.9	100	NW	2	0.9	.....	.....	Fog	.....	.....	0	0	Dense fog...	
Philadelphia, Pa	29.92	760.0	29.97	761.2	69	20.6	65	NE	11	4.9	.....	.....	10ks;am	'e.....	SW; Calm	0.02	0.5	Cloudy	
Phœnix, Arizona	28.66	728.0	30.30	769.6	77	25.0	38	NE	3	1.3	.....	0	5ks	.....	Calm	0	0	Fair.	
Pike's Peak, Colorado	18.06	458 7	30.27	768.8	30	— 1.1	68	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.09	738.9	29.86	758.4	81	27.2	95	S	10	4.5	.....	8k	2s	SE	S	0	0	Cloudy.....	
Ploche, Nevada	.....	.....	.....	.....	65	18.3	26	N	2	0.9	.....	0	2s	.....	NW	0	0	Fair	
Pittsburg, Pennsylvania	29.16	740.7	29.94	760.5	63	17.2	83	NE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Fort Huron, Michigan	29.39	746.5	30.05	763.3	57	13.9	63	E	7	3.1	.....	10cs	0	W	.....	0.02	0.5	Cloudy.....	
Portland, Maine	29.94	760.5	29.99	761.7	58	14.4	53	N	8	3.6	.....	1k	0	Calm	.....	0.16	4.1	Clear.....	
Portland, Oregon	29.86	761.0	30.03	762.7	58.0	14.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.82	630.4	30.18	766.6	64	17.8	39	.....	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	29.97	761.2	29.99	761.7	83	28.3	79	SE	7	3.1	.....	5cr	9	SW	.....	0.46	11.7	Fair	
Red Bluff, California	29.49	749.0	29.83	757.7	73	22.8	31	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.76	755.9	29.97	761.2	77	25.0	95	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Rochester, New York	29.46	748.3	30.06	763.5	57	13.9	63	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy.....	
Roseburg, Oregon	29.46	748.3	30.02	762.5	57	13.9	81	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sacramento, California	29.75	755.6	29.88	757.7	63	17.2	67	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.32	744.7	29.88	758.0	66	18.9	84	E	10	4.5	.....	.....	10n	.....	Calm	0.48	12.2	Light rain..	
St. Marks, Florida	29.93	760.2	29.96	760.7	76	24.4	95	SE	4	1.8	.....	0	1s	.....	Calm	0.80	20.3	Clear.....	
St. Paul, Minnesota	29.25	742.9	30.07	763.8	58	14.4	81	E	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	66	18.9	32	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.30	744.2	29.86	758.4	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.82	757.4	29.89	759.2	66	18.9	89	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Clear	
Sandusky, Ohio	29.33	745.0	29.98	761.5	68	20.0	74	E	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.95	760.7	29.98	761.5	69	20.6	70	NE	8	3.6	.....	5ck	Haze	Calm	Calm	0	0	Threatening	
San Francisco, California	29.83	757.7	29.90	759.4	51	10.6	93	SW	4	1.8	.....	.....	Fog	.....	SW	0	0	Fair	
Santa Fé, New Mexico	23.48	596.4	30.02	762.5	50	10.0	71	Calm	0	0	.....	0	0	.....	.....	0	0	Foggy.....	
Savannah, Georgia	29.88	758.9	29.97	761.2	78	25.6	76	Calm	0	0	.....	.....	10s	.....	S	0.02	0.5	Clear.....	
Shreveport, Louisiana	29.63	752.6	29.84	757.9	78	25.6	82	SW	6	2.7	.....	0	8s	.....	NW	0	0	Threatening	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fair.....	
Smithville, North Carolina	30.01	762.2	30.05	763.3	79	26.1	91	SW	5	2.2	.....	0	5ks	.....	SW	0	0	Fair	
Socorro, New Mexico	25.54	648.7	29.60	751.8	65	18.3	54	N	2	0.9	.....	0	1s	.....	Calm	Inap.	Inap.	Clear.....	
Springfield, Ill	29.26	743.2	29.91	759.7	67	19.4	82	NE	13	5.8	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Springfield, Massachusetts	29.88	758.9	30.00	762.0	65	18.3	63	N	5	2.2	.....	5cs	0	SW	.....	0.35	8.9	Fair.....	
Stockton, Texas	27.00	685.8	30.00	762.0	65	18.3	26	SE	4	1.8	.....	5c	0	E	.....	0	0	Fair.....	
Thatcher's Island, Mass	30.00	762.0	30.05	763.3	62	16.7	83	NE	14	6.3	.....	0	5s	.....	NE	0.18	4.6	Fair	
Toledo, Ohio	29.31	744.5	29.97	761.2	63	17.2	83	NE	16	7.2	.....	.....	10s	.....	NE	0.04	1.0	Cloudy	
Tucson, Arizona	27.44	697.0	29.98	761.5	78	25.6	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.58	751.3	30.05	763.3	68.0	20.0	34	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.04	737.6	29.83	757.7	77	25.0	82	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Vicksburg, Mississippi	29.67	753.6	29.92	760.0	72	22.2	95	S	5	2.7	.....	0	8s	.....	SW	0	0	Fair.....	
Virginia City, Montana	24.44	620.8	29.92	760.0	62	16.7	36	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.46	748.0	29.61	757.2	64	17.8	65	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.85	758.2	29.96	761.0	71	21.7	75	NE	7	3.1	.....	8cs	Haze	W	Calm	0.02	0.5	Dense haze..	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.94	760.5	30.02	762.5	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	58	14.4	17	E	7	3.1	.....	0	1s	.....	Calm	0	0	Clear.....	
Wood's Holl, Mass	29.94	760.5	29.97	761.2	67	19.4	74	NE	10	4.5	.....	.....	10s	.....	SW	0.01	0.3	Cloudy.....	
Yankton, Dakota	28.91	734.3	30.21	767.3	54	12.2	93	Calm	0	0	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy.....	
Yuma, Arizona	29.62	752.3	29.78	756.4	79	26.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.93	760.2	29.98	761.5	84	28.9	79	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	80	26.7	88	NE	.....	.....	.....	5k	5ks	Calm	.....	0	0	Fine.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.24	641.1	.....	.....	66.5	19.2	78	Calm	.....	.....	0	5cs;k	0	.....	.....	0	0	.....	James Gall.
Navassa, W. I.	29.86	758.2	29.93	760.2	83	28.3	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	78	25.6	86	SE	.....	.....	3	.....	8ks	.....	.....	0	0	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	29.93	752.6	29.94	752.8	83	28.3	79	E	5	2.2	.....	2c	2n	NE	.....	0.35	8.9	Clearing.....	Robert Mason.
York Factory, B. A.	29.78	756.1	29.78	756.4	39.0	3.9	95	N	18	8.0	.....	2c	0	NW	.....	0	0	Fair..	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,560 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.3 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡	.....	.....	80	26.7	87	NW	4	1.8	.....	.....	0	.....	.....	3.14	79.8	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.62‡	752.3‡	.....	.....	81	27.2	85	NE	.....	.....	1	.....	2k; hz	.....	N	0	0	.....	.....	Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	57	13.9	87	SW	.....	.....	1–2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, N. 31° 56′, W. 120° 13′....*	29.88‡	758.9‡	.....	.....	59	15.0	94	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	SE	Misty	
Alliance, Reval, Russia	30.11‡	764.8‡	.....	.....	62	16.7	66	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot, Yokohama, Japan	29.65‡	753.1‡	.....	.....	81	27.2	83	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado, New York, N. Y.	29.92‡	760.0‡	.....	.....	70	21.1	70	NNE	3	1.3	.....	.....	8	.....	.....	0	0	.....	.....	Hazy	
Constellation, Narragansett Bay, R. I.	29.96‡	761.0‡	.....	.....	65.8	18.8	73	NNE	.....	.....	3	.....	2	.....	W	Light	Light	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.00‡	762.0‡	.....	.....	70	21.1	70	NNE	.....	.....	1	.....	6	.....	SW	.....	.....	.....	.....	Cloudy	
Enterprise, Cowes, England	29.99‡	761.7‡	.....	.....	69	20.6	90	SW	.....	.....	2	.....	2	.....	WSW	.....	.....	Smooth	.....	Clear	
Essex, Rio de Janeiro, Brazil	30.41‡	772.4‡	.....	.....	68	20.0	100	NW	.....	.....	2	.....	2	.....	NW	.....	.....	Smooth	.....	Fair	
Franklin. Norfolk, Va.	29.98‡	761.5‡	.....	.....	75	23.9	81	SSW	4.8	2.1	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Hartford Rio de Janeiro, Brazil	30.37‡	771.4‡	.....	.....	69	20.6	80	NW	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	59	15.0	??	SW	1.2	0.5	.....	.....	1?	.....	SW	0	0	.....	.....	Cloudy?	
Kearsarge, Charlottetown, Prince Edward Island	29.80‡	756.9‡	.....	.....	51	10.6	100	NW	.....	.....	4	.....	8	.....	NW	.....	.....	.....	.....	Fair	
Michigan, Chicago, Ill.	29.88‡	758.9‡	.....	.....	66	18.9	89	ENE	.....	.....	6	.....	10	.....	ENE	.....	.....	.....	.....	Overcast	
Monocacy. Shanghai, China	29.79‡	756.7‡	.....	.....	87	30.6	84	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, N. 38° 41′, E. 143° 38′	29.63‡	752.6‡	.....	.....	77	25.0	73	SW	.....	.....	3	.....	ck	.....	.....	0	0	Light	S;W	D. clouds	
New Hampshire. Port Royal, S. C.	29.97‡	761.2‡	.....	.....	82	27.8	83	SE	7	3.1	.....	.....	8	.....	S	0	0	.....	.....	Cloudy	
Onward, Callao, Peru.†	30.03‡	762.7‡	.....	.....	62	16.7	77	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China	29.81‡	757.2‡	.....	.....	83	28.3	100	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	70	21.1	100	NE	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.03‡	762.7‡	.....	.....	61	16.1	94	S	1	0.4	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. Portland, Maine	30.00‡	762.0‡	.....	.....	56	13.3	57	NNE	.....	.....	4	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Powhatan, Navy Yard, Pensacola, Fla.	29.96‡	761.0‡	.....	.....	78	25.6	86	NW	.....	.....	1	.....	2	.....	Calm	1.4	37.	Smooth	.....	Fair	
Quinnebaug, Trieste, Austria	29.94‡	760.5‡	.....	.....	81	27.2	59	NW	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Ranger, Nagasaki, Japan	§. 30.03‡	762.7‡	.....	.....	86	30.0	96	SSW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.62‡	752.3‡	.....	.....	84	28.9	83	NW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.89‡	759.2‡	.....	.....	78	25.6	95	SE	.....	.....	1	.....	5	.....	SE	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	29.98‡	761.5‡	.....	.....	75	23.9	77	NE	.....	.....	1	.....	5	.....	NE	0.01	0.3	.....	.....	Cloudy	
Saratoga, New Bedford, Mass.	29 98‡	761.5‡	.....	.....	64	17.8	94	NNE	.....	.....	3	.....	8	.....	Calm	0	0	.....	.....	Hazy	
St. Louis, League Island, Pa	29.99‡	761.7‡	.....	.....	70	21.1	80	NE	5	2.2	.....	.....	8	.....	W	0	0	.....	.....	Foggy	
Trenton, Gravesend, Eng.	29.94‡	760.5‡	.....	.....	70	21.1	75	SSW	.....	.....	1–2	.....	5	.....	WNW	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.88‡	758.9‡	.....	.....	57	13.9	94	SW	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia, N. 24° 33′, W. 82° 57′	30.05‡	763.3‡	.....	.....	83	28.3	83	ESE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	29.91‡	759.7‡	.....	.....	65	18.3	68	NW	4	1.8	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wachusett, N. 32° 15′, W. 78° 00′	30.04‡	763.0‡	.....	.....	84	28.9	83	SE	.....	.....	2	.....	5	.....	NE	.....	.....	Mod'ate	NE	Fair	
Wyoming, Trebizond, Asia Minor	29.75‡	755.6‡	.....	.....	76	24.4	64	ESE	.....	.....	1	.....	5	.....	ESE	.....	.....	Smooth	ESE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, San Jose de Guatemala, C. A.		29.94‡	760.5‡	77	25.0	100	NNE			2		6		Calm	0.20 in. or 5.1 mm	Mod'ate	SW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.89‡	759.2‡				SW			1		0						Clear	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China †.		29.92‡	760.0‡	90	32.2	67	S			3		2k			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 42° 34′, E. 157° 22′		29.43‡	747.5‡	71	21.7	95	S			4		8		W		3	S	Misty	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Unddtsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 50° 07′, W. 2° 59′		29.94‡	760.5‡	64.0	17.8	83	W			3		5		W	4 h'rs	Smooth	W	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 19′, W. 41° 30′		30.27‡	768.8‡				S			4		8		W		4	N	Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng.		29.97‡	761.2‡	64	17.8	83	W			2		3		W	Light			Fair.	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 33° 46', W. 21° 15'		30.26‡	68.6‡	74.2	23.4	88	NE			4		6				8	ENE	D. clouds	Capt. W. Randall. Capt. P. Sandelin. L. Dunbar.
Nordenskiold of Sundsvall, Sweden																			
Sch'r A. A. Rowe, Capt. Beckwith																			

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

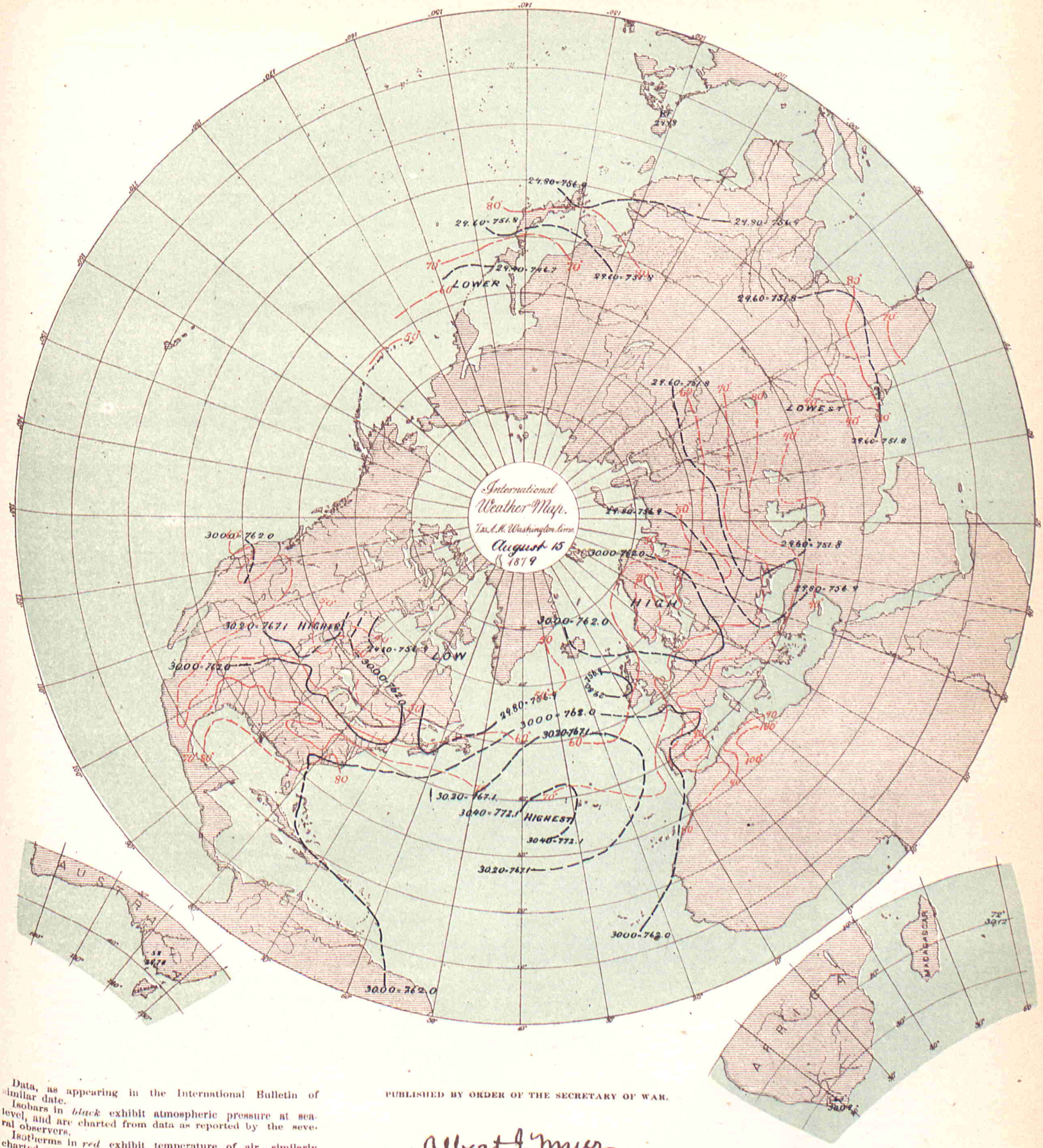
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.96	761.0	69.4	20.8	85	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.87	758.6	84.0	28.9	70	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.87	758.6	81.0	27.2	68	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.91	759.8	85.3	29.6	73	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.95	760.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.86	758.4	86.0	30.0	23	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	29.92	759.9	88.5	31.4	34	W	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	.....	.....	79.6	26.4	50	SSE	.....	.....	7	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.87	758.8	97.6	35.4	36	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	29.82	757.3	102.2	39.0	23	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The élevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.30	744.2	29.82	757.4	79.2	26.2	44	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.18	741.1	29.92	760.0	69.1	20.6	54	E	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.03	737.4	29.88	759.0	69.1	20.6	51	Calm	.....	.....	0	.....	2cs	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.62	726.9	29.81	757.2	73.8	23.2	62	SW	.....	.....	3	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.45	722.7	29.82	757.4	73.6	23.1	50	WNW	.....	.....	1	.....	4	.....	.....	0.004	0.1	.....	Prof. A. Gottschling.
Kremsmünster	28.46	722.8	29.72	755.0	75.4	24.1	78	NE	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.95	735.2	29.91	759.6	63.6	17.6	64	NE	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.72	754.8	29.82	757.5	80.4	30.2	30	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.47	748.5	29.92	759.9	70.9	21.6	39	NW	.....	.....	4	.....	3	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.82	757.5	29.85	758.3	77.7	25.4	63	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.75	755.7	29.85	758.3	79.2	26.2	57	ESE	.....	.....	1	.....	1	.....	.....	0.102	2.6	.....	P. Busin.
Vienna	29.14	740.2	29.88	759.0	74.8	23.8	52	ESE	.....	.....	2	.....	1	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.67	753.6	29.77	756.1	50.3	10.2		E	6	2.7			10			1.050	26.67	Misty	W. Boswell.
Ardrossan	29.64	752.8	29.66	753.4	63	17.2		NE			3		8					Foggy	Wm.McNeil &G.Carrick
Armagh, Observatory	29.49	749.0	29.71	754.6	60.0	15.6		NW	4	1.8			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			29.61	752.1	61.0	16.1		ESE	4	1.8			10					Overcast	John Hartnup.
Bolton (Sharples)			29.56	750.8	62.1	16.7		E	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.25	742.9	29.64	752.8	58.2	14.6		N			3		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.84	757.9	29.86	758.4	85	29.4		SW			2		3					D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.50	749.3	29.59	751.6	68.0	20.0		Calm			0		10					Overcast	H. Todd.
Cardington			29.62	752.3	66.0	18.9		S			1		10					Thunder	John McLaren.
Chatham, School M. E.	29.51	749.5	29.63	752.6	66.6	19.2		SW			1		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.66	753.1	29.69	754.1	57	13.9		SW			2		10					Overcast	J. Mac Gowan.
Dover	29.62	752.3	29.65	753.1	65	18.3		SW			2		4					⅛ clouded	J. Costello.
Falmouth, Observatory	29.46	748.3	29.69	754.1	56.6	13.7		W			5		9					Raining	The Staff.
Fort Napier (Natal)																			Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.01	762.2	72	22.2		W			2		4					Raining	
Galway, Queen's College			29.73	755.1	62	16.7		NW			3		8					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.84	757.9	29.89	759.2	60.5	26.9		E			1		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.48	748.8	29.69	754.1	59.9	15.2		ENE			6		8					Gloomy	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.66	753.4	62	16.7		SSE			2		0					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.45	748.0	29.61	752.1	66.5	19.2		SSE			1		10					Showery	The Staff, for G.B.Airy.
Guernsey	29.61	749.5	29.73	755.1	63	17.2		WSW			3		3					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.76	755.9	29.88	758.9	59	15.0		SW			6		6k			0.27	6.9		M. P. Moyle.
Holyhead	29.64	752.8	29.64	752.8	58	14.4		NNW			3		10					Misty	John Tilston.
Jersey	29.50	749.3	29.78	756.4	61.3	16.3		W			6		5			Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	29.57	751.1	29.61	752.1	66.2	19.0		SE	13	5.8			9					Threatening	The Met'g'l Office.
Leicester, Museum	29.36	745.7	29.60	751.8	62.6	17.1		S			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.72	754.9	29.79	756.7	84	28.9		SE			2		0					Blue sky	A. King.
Nairn	29.66	753.4	29.74	755.4	55	12.8		ENE			1		10					Overcast	W. D. Penny.
Nassau (Bahamas)			29.87	758.7	83.5	28.6		N			3		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.45	748.0	29.64	752.8	60.0	15.6		N			1		10n		N	0.381	9.68	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	738.9	29.60	751.8	59.1	15.1		ENE			2		10			Blank	Blank	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.59	751.6	62	16.7		ESE			1		10					Overcast	H. E. Bellamy.
Plymouth	29.60	751.8	29.67	753.6	63.5	17.5		W			4		5					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.70	754.4	29.80	756.9	61	16.1		NNW			6		5					⅛ clouded	Wm. Kennedy.
Saint Ann's Head	29.47	748.5	29.63	752.6	55	12.8		NW			3		10					Raining	John C. Walker.
Sandwick Manse (Orkneys)			29.78	756.4	58.3	14.6		S	8	3.6			10					Misty	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.77	756.1	29.84	757.9	84.8	29.3		NE			2		5					D. clouds	Serg't.W. H.Lyne.
Sheffield								NE			1		10			0.47	11.9	Drizzling	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	61.4	16.3	81	E			5		7			0.250	6.35	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory			29.63	752.6	61.9	16.6		NNE	10	4.5			10					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss					67.1	19.5		S			1		3					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.71	754.6	29.72	754.9	63	17.2		NW			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.88	758.9	58.8	14.9		NW	22	9.8			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.97	761.2	30.01	762.2	59.0	15.0		NNW	8.5	3.8		10	6			0	0	Threatening	The Staff, for D. Gill.
Hobart Town (Tasmania)																			FrancisAbbott, F.R.A.S.
Leith, Restalrig Park			29.73	755.1	55.2	12.9		E			2		10s			0.17	4.3	Overcast	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.2	72.6	22.6	68	ESE	17.5	7.8		0	3		ESE	0.01	0.3	Squally	C. Meldrum.
Melbourne, Observatory	29.39	746.5	29.48	748.8	49.3	9.6	62	N	30	13.4			0			0.29	7.4	Squally	R. L. J. Ellery.
Monach Lt-house(Hebrides)																			J. Youngclause.
North Unst (Shetland Is.)																			Robert Burnet.
ColesbergBridge, Cape Col.																			

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 50'. E. 29° 10'			29.87‡	758.7‡	77	25.0		NW			1		4					D. clouds	Capt. W. J. L. Wharton.
Algeria, N. 41° 40', W. 54° 50'			30.12	765.0	67	19.4		NNW			3		6			2	nw&sw	D. clouds	Capt. Wm. Watson.
Atmosphere, N. 51° 30' E. 2° 00'			29.67	753.6	61	16.1		WSW			6		8			2	wsw	D. clouds	
German Brig "W. von Freeden" N. 43° 00', W. 46° 35'			29.94	760.5	68	20.0		NW			6		6			4	SW	Raining	Capt. H. v. Freeden.
Theophane																			Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
Barque Fedalma																			Capt. H. L. Fox.
British Peer																			Capt. Raymond.
Astarte																			Capt. Parson.
Agnes Wilson																			Capt. H. W. Dyke.
Gordon Castle																			
Barque Commewyne																			Capt. A. Buchan.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER
San José	26.21	665.7	29.93	760.2	64.8	18.2	93	SE			1	9ck; s				0.6	15		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.89	759.2	29.94	760.4	65.3	18.5	60	SSE			2		3						
Fanöe	29.79	756.7	29.81	757.2	67.8	19.9	79	SE			6		9						
Godthaab (Greenland)	29.43	747.6	29.48	748.7	49.6	9.8	80	NNE			2		9						
Stykkisholm (Iceland)	29.81	757.2	29.85	758.3	55.0	12.8	57	Calm			0		5						
Thorshavn (Farõe)	29.73	755.2	29.77	756.1	51.8	11.0	99	SE			2		10					Foggy	
Vestervig	29.77	756.1	29.88	758.9	63.5	20.3	74	E			2		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.29	743.9	29.84	757.9	65.5	18.6	60	SW			2		10k		W	0.008	0.2	Raining	Collignon, Director.
Amiens, Normal School	29.77	756.1	29.88	758.9	74.1	23.4	66	SW			1		8		NE	0	0	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.44	747.7	29.69	754 0	68.0	20.0	76	SW			1				SW	0.189	4.8		Klein, Commandant.
Avignon, Normal School	29.74	755.4	29.82	757.4	84.7	29.3	47	N			1		5		W	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.79	756.6	72.5	22.5	57	W			2		8ku		W	0.681	17.3	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.47	748.4	29.72	755.0	68.5	20.3	64	WSW			3		8	S	W	0.539	13.7	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.91	734.4	29.75	755.7	82.8	28.2	75	S			1		5	SW		0.31	8.	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.99	736.3	29.92	760.0	69.8	21	82	N			1		10n	SW	SW	0.10	28.	Raining	Marlot, Director.
Bourges, Normal School	29.31	744.4	29.84	758.0	70.7	21.5	78	SW			3		k	S	WSW	0.098	2.5		M. Gence, Director.
Brest, Naval Observatory	29.56	750.9	29.81	757.1	64.8	18.2	71	W			3		8		W	0.039	1.00	Raining	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.45	748.0	29.85	758.2	76.3	24.6	58	W			2		8	S	NW	0	0	Very cloudy	September, Dir.
Caen, Normal School	29.65	753.1	29.72	755.0	66.6	19.2	57	W			3		5		W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.30	744.2	29.81	757.2	77.9	25.5	61	SW			2		10		NE	0.059	1.5	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.4	29.85	758.1	71.2	21.8	69	SSW			1		10					Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.53	724.3	29.81	757.1	75.2	24.0	53	W			2		8		W	0.614	15.6		Alluard, Director.
Commercy, Normal School	28.94	735.1	29.76	755.8	73.4	23	74	SW			1		5kn	W	W	0.846	21.5	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.79	731.2	29.93	760.2	83.8	28.8	43	W			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.16	740.7	29.90	759.4	73.4	23.0	68	NE			1		10			0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.70	754.4	29.91	759.8	67.5	19.7	61	SW			3		5		SW	0.089	2.1	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.53	750.1	29.84	757.8	63.5	17.5	68	SW			5		8		W	0.020	0.50	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.99	736.3	29.87	758.8	68.0	20	92	SW			2		k	SW	SW	0.51	13.		A. Baudry, Director.
Lorient, Naval Observatory	29.78	756.3	29.88	758.9	64.8	18.2	67	WSW			3				W	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.26	743.2	29.85	758.3	74.5	23.6	65	S			1		5		WSW	0.906	23.0	Cloudy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.56	750.8	29.82	757.5	77.5	25.3	74	W			3-4	6			W	0	0		E. Stephan, Director
Mirecourt, Normal School	28.80	731.5	29.81	757.2	64.9	18.3	77	SW			1		5k	SW	SW			Very cloudy	Barbier, Director.
Mont-Louis	24.89	632.1	30.20	767.1	59.9	15.5	73	W	15.0	6.7		10			E			Raining	M. Cleve.
Nice	29.83	757.6	29.86	758.5	81.0	27.2	71	SE			1	10		E	SE	0.236	6.0	Light rain	M. Boissiers, Director.
Nismes, Normal School	29.67	753.5	29.85	758.3	84.6	34.8	42	N			3	2			N	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.49	749.0	64.9	18.3	71	SSW			3	7			SW	0.563	14.3		Marie Davy, Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.57	573.3			44.8	7.1		SW			1	10			SW	0	0	Covered	Gen'l de Nansouty.
Perpignan	29.81	757.2	29.91	759.8	75.2	24.0	51	NW	16.8	7 5		8			W	0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.16	638.7			57.6	14.2	100	SW			5					1.024	26.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.92	760.0	29.95	760.8	69.4	20.8	63	W			2	8	W	W		0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.66	753.3	29.74	755.5	64.0	17.8	71	W			1	2			SW	0.350	21.6	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.76	755.9	29.79	756.7	57.4	14.1	83	SW			3	8	WSW	WSW		0.050	1.26	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.60	751.8	29.77	756.1	65.3	18.5	71	SW			2-3	10			SW	0.453	11.5		E. Renou, Director.
Tarbes, Normal School	29.09	738.8	30.14	765.6	69.8	21	82	W			2	2	W	NW		0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.34	745.2	30.06	763.6	64.2	17.9	73	NW			3	9				0	0		M. Julier Mercadier.
Tours	29.66	753.3	29.85	758.3	66.2	19.0	57	SW			3	5	W	W		1.130	28.7	¼ covered	Cousin-Marquet.
Versailles, Observatory	29.29	743.5	29.78	756.4	67.6	19.8	65	SW			3	8				0.489	12.42	Very cloudy	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.17	740.9	29.85	758.1	79.7	26.5	55	NNW			1	2			E	0.322	8.2	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.76	756.0	29.79	756.7	80.6	27										0	0		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.77	756.2	29.80	756.8	84.7	29.3	76	S	4.0	1.8			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 368 meters, or 1,273 feet; Commune de Grêasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.7	29.80	757.0	71.6	22.0	59	S			2		6			0.079	2.0		Prof. Dr. Hoh.
Berlin	29.71	754.6	29.87	758.8	74.5	23.6	47	SE			3		2			0	0		Prof. Dr. Arndt.
Breslau	29.40	746.8	29.93	760.2	72.1	22.3	44	SE			3		2			0	0		Royal University Obs'y.
Carlsruhe	29.37	746.0	29.76	755.9	72.3	22.4	77	W			1		10	SW		0.315	8.0		Albert Sens.
Cassel	29.21	742.0	29.82	757.3	71.2	21.8	58	SE			2		8	SW		0.020	0.52		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	68.9	20.5	89	SE			1		9			0.20	5.	Raining	Director Lose.
Emden			29.69	754.2	66.2	19.0	56	SE			1		10			0.142	3.6		Prof. Dr. Prestel.
Frankfort on the Main	29.40	746.8	29.76	755.8	71.2	21.8		ESE			2		9			0.008	0.2		Physical Society.
Freienwalde on the Oder																			Dr. Assmann.
Friedrichshafen	28.43	722.2	29.81	757.2	71.2	21.8	73	WNW			3		10	W		0.193	4.9		M. Wilhelm.
Hamburg	29.76	755.8	29.82	757.5	71.6	22.0	54	SE			4		6ck			0	0	Fair	Captain F. Hegemann.
Kiel	29.92	757.3	29.83	757.7	71.1	21.7	69	E			3		6			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.88	758.9	29.96	760.9	69.4	20.8	51	E			3		2			0	0		Prof. E. Luther.
Köslin			29.91	759.8	69.8	21.0		E			2		2			0	0		H. Müller.
Leipsic Observatory	29.40	746.7	29.80	756.9	77.7	25.4	46	ESE			2		4			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.96	760.9	30.00	762.1	61.3	16.3	55	NW			3		0					Clear	Skalweit.
Munich (München)	28.03	712.0	29.88	759.0	75.4	24.1	56	W			3		9			0	0		Dr. C. Lang.
Neufahrwasser	29.98	761.5	30.00	761.9	63.7	17.6	47	NE			3		3			0	0		A. Lothes.
Posen	29.60	751.8	29.88	758.9	70.0	21.1	52	E			6		2			0	0		Dr. Magener.
Strassburg (in Alsace)	29.28	743.8	29.81	757.1	75.7	24.3	72	SSW			3		10	SW		0.031	0.78		Imp. University Observatory.
Stuttgart	28.84	732.6	29.73	755.1	78.3	25.7	47	W			1		9	W		0.028	0.7		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.34	719.7	29.77	756.1	72.7	22.6	66	S	1.1	0.5			9cks	SW		0	0	Hazy	T. Hopfner.
Wustrow	29.89	759.1	29.91	759.8	68.2	20.1	57	E			3		6cs			0.417	10.6		E. Schütz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.9	29.90	759.4	84.6	29.2		SW			2.0		ck					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds, they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.8	29.53	750.1	83.0	28.3	71	W	28.0	12.5			7		W	0	0		D. clouds
Deesa	29.12	739.6	29.59	751.6	78.2	25.7	89	S	7.8	3.5			10		NW	1.14	29.0		Drizzling
Bombay	29.67	753.6	29.71	754.6	77.7	25.4	93	WSW	20.0	8.9			10		SW	0.26	6.6		Overcast
Poona	27.86	707.5	29.72	754.9	73.0	22.8	86	W	15.0	6.7			10		W	0.26	6.6		Overcast
Lahore	28.79	731.2	29.61	749.5	92.1	33.4	59	N	5.3	2.4			3			0	0		Blue sky
Belgaum	27.25	692.1	29.82	757.3	68.3	20.2	98	SW	12.0	5.4			10	SW	SW	1.19	30.2		Drizzling
Roorkee	28.66	728.0	29.54	750.4	84.8	29.3	77	SE	5.0	2.2			5			0	0		D. clouds
Agra	28.98	736.0	29.54	750.2	83.7	28.7	87	E					10		E	0	0		
Nagpur	28.56	725.5	29.60	751.7	80.5	26.9	83	WSW	5.8	2.6			7		SE	0.06	1.5		D. clouds
Lucknow	29.15	740.4	29.52	749.8	80.3	26.8	91	Calm	2.3	1.0			10			0.09	2.3		Overcast
Allahabad	29.28	743.8	29.59	751.6	81.6	27.6	89	E	0.9	0.4			9		E	0.11	2.8		D. clouds
Patna	29.43	747.4	29.61	752.0	82.3	27.9	86	E	1.6	0.7			6	E	E	0.19	4.8		D. clouds
Hazaribagh	27.63	701.8	29.64	752.8	76.8	24.9	90	SE	4.0	1.8			10			0.55	14.0	Thunder-storm	
Cuttack	29.55	750.6	29.63	752.7	84.0	28.9	75	SSE	2.0	0.9			3			0.05	1.3		D. clouds
Calcutta (Alipore)	29.64	752.9	29.67	753.5	81.2	27.3	87	S	4.0	1.8			6	S		0	0		D. clouds
Goalpara	29.31	744.5	29.70	754.4	76.0	24.4	97	NW	2.6	1.2			10			0.75	19.0		Raining
Chittagong	29.68	753.8	29.76	756.0	79.6	26.4	89	S	6.7	3.0			9			0.02	0.5		Gloomy
Sibsagar	29.38	746.3	29.72	754.8	81.2	27.3	86	SW	2.6	1.2			10	W	W	1.05	26.7		D. clouds
Jubbulpore	28.19	716.1	29.55	750.6	76.8	24.9	93	N	2.2	1.0			10		E	0.39	9.9		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 463.3 m.; Nagpur is 1,020 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.45	747.9	29.84	757.9	81.0	27.2	39	SE	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.32	744.7	29.81	757.2	82.6	28.1	42	SSE	.....	.....	2	.....	8	SW	.....	0.020	0.5	.....	Prof. Schiaparelli.
Padua	29.70	754.4	29.81	757.1	82.2	27.9	44	E	3.8	1.7	.....	.....	3	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.97	735.7	29.84	757.8	75.0	23.9	68	NW	4.3	1.9	.....	.....	8	E	.....	0.118	3.0	.....	Prof. P. F. Denza.
Genoa	29.66	753.4	29.84	758.0	78.8	26.0	68	SW	3.1	1.4	.....	.....	8	NW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	710.8	29.81	757.2	70.2	21.2	84	ESE	.....	.....	2	.....	9	.....	.....	0.287	7.3	.....	Prof. D. C. Bruno.
Pesaro	29.76	756.0	29.81	757.2	69.1	20.7	62	E	14.3	6.4	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.56	750.8	29.81	757.1	87.8	31.0	37	NW	.....	.....	2	.....	3	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.74	755.5	29.82	757.5	83.1	28.4	65	W	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.68	753.8	29.85	758.1	87.3	30.7	46	S	4.9	2.2	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.0	29.89	759.2	81.0	27.2	39	SW	15.0	6.7	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.2	29.87	758.6	82.8	28.2	62	SW	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.63	752.5	29.81	757.2	82.9	28.3	62	SE	.....	.....	2	.....	5	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.62	752.4	29.87	758.7	83.8	28.8	55	ENE	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.79	756.6	29.86	758.4	87.8	31.0	47	S	7.4	3.3	.....	.....	5	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.35	745.5	29.91	759.6	79.2	26.2	64	ENE	0	0	.....	.....	9	NW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.78	756.4	29.79	756.6	84.9	29.4	67	SW	7.8	3.5	.....	.....	8cs	.....	.....	0	0	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.89	759.2	80.3	26.8	86	SSW	5.0	2.2	.....	.....	1s	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory	29.67	753.6	29.73	755.1	79.2	26.2	88	S	5.5	2.4	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	29.74	755.4	29.78	756.4	82.4	28.0	84	W	0.3	0.1	.....	.....	2s	.....	.....	0	0	Fair.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.01	635.3	30.00	762.1	68.6	14.8	81	NE	.....	.....	1	.....	10	.....	E	0.63	16.0	Covered	Prof. L. Perez.
Leon	24.38	619.3	30.00	762.0	63.0	17.2	92	SE	.....	.....	2	2c	7ks	NE	.....	0	0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.03	584.9	29.97	761.1	67.6	14.2	86	Calm	0	0	.....	8k	0	S	.....	0.09	2.3	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.1	17.3	93	Calm	.....	.....	0	.....	10n	.....	NE	0.24	6.1	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.7	29.88	759.0	79.7	26.5	91	S	.....	.....	2	9	5	Calm	S	0	0	Threatening	Prof. M. M. Chazaro.
San Luis Potosi	24.16	613.6	30.08	764.1	60.1	15.6	63	SE	.....	.....	2	1	0	E	.....	0.34	8.6	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.67	575.3	30.13	765.2	56.8	13.8	90	E	.....	.....	1	.....	10n	.....	E	0.91	23.0	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.41	594.5	30.11	764.7	57.0	13.9	82	SE	0.2	0.1	.....	.....	10ck	.....	S	0.28	7.0	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.58	751.2	29.86	758.5	75.0	24.2	95	NE	.....	.....	1	2cs	7n	Calm	E	0.08	2.0	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,850.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.69	754.1	29.69	754.1	71.2	21.8	.....	ESE	.....	.....	2	.....	.....	.....	.....	0.161	4.1	.....	
Groningen	29.66	753.3	29.71	754.7	68.9	20.5	.....	S	.....	.....	1	.....	.....	.....	.....	0.098	2.5	.....	
Helder	29.68	753.9	29.68	753.9	62.2	16 8	.....	SW	.....	.....	1	.....	.....	.....	.....	0.539	13.7	.....	
Hellevoetsluis	29.70	754.4	29.70	754.4	69.6	20.9	81	SE	.....	.....	1	.....	.....	.....	.....	0.236	6.0	.....	
Utrecht	29.67	753.6	29.72	754.8	64.2	17.9	90	W	.....	.....	1	.....	10	.....	.....	0.350	8.9	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and tem-perature. Inches.	Barometer. Corrected for instru'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.6	29.85	759.0	69.8	21.0	65	NNW	3.6	1.6	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.89	759.3	29.93	760.3	66.2	19.0	54	N	4	2	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.80	757.0	29.95	760.6	73.0	22.8	55	WSW	2	1	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.97	761.3	30.02	762.4	69.7	15.4	55	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.17	766.2	30.35	770.9	72.7	22.6	66	E	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.91	734.4	29.58	759.0	86.4	30.2	28	W	4.9	2.2	.....	.....	2	W	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.02	762.5	30.11	764.7	76.6	24.8	55	SW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.64	752.8	29.98	761.4	70.9	21.6	37	N	33.6	15.0	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.30	769.6	30.39	771.8	74.8	23.8	54	ESE	0	0	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira,																		J.C. M. Cabrate, 1st Lt.
Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos.																		H. de C. C. e Athayde.
Mossamedes, Lower Guinea	.....	.....	30.02	762.4	67.6	19.8	.....	WNW	.....	.....	3	.....	4	.....	WNW	1	WNW	D. clouds..... J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa.																		A. A. A. Loureiro.
St. Vincent, Cape Verd Island	.....	.....	30.00	762.0	80.2	26.8	.....	ENE	.....	.....	3	.....	6	.....	ENE	3	ENE	D. clouds..... F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes.																		J.G. Felgo 2nd Lieut.
Macao, China	.....	.....	29.98	761.5	85.3	29.6	.....	SW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.54	750.2	29.95	760.6	66.6	19.2	51	SSE	4	2	.....	.....	1k	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.54	750.2	29.95	760.6	63.9	17.7	42	NW	2	1	.....	.....	4	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.63	752.7	29.87	758.8	56.5	13.6	62	N	7	3	.....	.....	10n	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.82	757.4	29.84	757.8	52.0	11.1	76	N	13	6	.....	.....	10n	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.23	742.4	29.85	758.2	59.0	15.0	56	N	9	4	.....	.....	2k;ks	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.80	756.9	29.87	758.7	63.5	17.5	69	N	4	2	.....	.....	9ks	.....	.....	.....	.....	Kurdakof.
Kertch	29.84	757.9	29.86	758.4	68.9	20.5	88	SW	4	2	.....	.....	5	.....	.....	.....	.....	Lagorio.
Moscow	29.16	740.6	29.69	754.2	60.1	15.6	52	W	7.5	3.5	.....	.....	3ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.39	746.4	29.59	751.5	61.7	16.5	86	WNW	13	6	.....	.....	10	.....	.....	Blank	Blank	Meteorological Obs.
Archangel	29.80	756.9	29.82	757.4	55.6	13.1	78	N	9	4	.....	.....	9k	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.38	720.9	29.72	754.9	76.6	25.9	39	NW	4	2	.....	.....	5ks	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.74	755.3	29.65	753.2	65.1	29.5	33	W	22	10	.....	.....	3ks	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.04	737.5	29.48	748.9	68.7	20.4	75	NW	2	1	.....	.....	9	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.25	743.0	29.51	749.6	63.0	17.2	91	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.72	729.4	29.63	752.7	70.5	21.4	69	SSE	7	3	.....	.....	9	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.34	745.2	29.56	750.7	97.2	36.2	24	NNW	4	2	.....	.....	2k	.....	.....	.....	.....	
Tashkend	28.08	713.1	29.52	749.9	87.4	30.8	66	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.28	743.7	29.77	756.1	62.4	16.9	64	NW	0	0	.....	.....	9	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.68	751.4	29.86	758.5	57.0	13.9	82	NW	2	1	.....	.....	4	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.50	749.2	29.64	752.8	75.9	24.4	87	Calm	0	0	.....	1c	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.54	750.2	29.63	752.7	69.4	20.8	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.77	756.1	29.87	758.7	82.4	28	62	SE	4.5	2.03	.....	.....	3	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.05	763.2	30.10	764.6	64.2	17.9	85	NW	2.8	1.23	.....	.....	10	.....	.....	0.051	1.3	Rainy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.11	688.5	.....	.....	65.8	18.8	57	N	8.0	3.56	.....	0	6	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.70	703.5	29.76	755.9	92.1	33.4	26	SW	14.9	6.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.71	754.6	29.85	758.2	93.2	34.0	44	SSW	4.7	2.11	.....	0	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.4	30.07	763.7	66.9	19.4	50	N	13.0	5.8	.....	0	7	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.85	758.2	29.92	759.9	79.9	26.6	78	Calm	0	0	.....	6c;cp	0	SSW	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.90	759.4	29.95	760.8	85.1	29.5	77	NNE	1.8	0.8	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.80	756.8	29 89	759.2	80.4	26.9	64	WNW	11.5	5.1	.....	0	0	.....	.....	0	9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.6	30.00	761.9	81.7	27.6	81	SE	7.5	3.37	.....	3cs	3k	SE	SE	0.049	1.25	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and gravity. Inches.	Barometer. Corrected for instrumental error and gravity. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.06	763.4	30.10	764.4	66.6	19.2	.....	N	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	30.01	762.3	30.07	763.6	67.3	19.6	55	ENE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.00	761.9	30.05	763.2	67.6	19.8	83	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.78	756.4	29.96	760.9	68.0	20.0	25	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Wisby	29.89	759.3	29.95	760.8	62.6	17.0	90	W	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.87	758.6	29.95	760.8	70.7	21.5	42	ENE	8.9	4.0	.....	.....	8	.....	.....	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.49	723.6	29.87	758.6	71.2	21.8	75	WSW	.....	.....	2	.....	10	.....	.....	0.469	11.9	Covered	The Observatory.
Zurich	28.29	718.6	29.89	759.2	65.5	18.6	85	W	.....	.....	2	.....	10	.....	.....	0.228	5.8	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.2 mm.; Thermometer, +0.1 Cent.; Relative Humidity, +20 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.2	79.5	26.4	51	ESE	7	3.0	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.2	65.1	29.5	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.64	752.8	29.75	755.7	90.0	32.2	50	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.09	764.3	30.15	765.8	61	10.6	76	SW	3	1.3	.....	10c	0	W	.....	0	0	Fair	G. A. Bish.
Charlottetown, P. E. Island	30.10	764.5	30.14	765.5	67	13.9	63	W	1	0.4	.....	5cs	0	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.08	764.0	60.2	10.1	89	NE	.....	.....	2	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	58.5	14.7	46	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.08	764.0	30.10	764.5	52	11.1	73	SW	30	13.4	.....	2c	Haze	W	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.16	766.1	30.23	767.5	52.2	11.2	65	N	7	3.1	.....	3c;ck	0	.....	.....	0.060	1.52	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.26	743.2	30.08	764.0	54	12.2	93	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.83	732.3	29.94	760.5	48	8.9	100	NE	.....	.....	2	.....	10n	.....	.....	0.30	7.6	Light rain	James Grant.
*Halifax, N. S	30.09	764.3	30.22	767.6	58	14.4	59	NW	1	0.4	.....	2cs	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.63	752.6	30.01	762.2	52.6	11.4	90	NE	.....	.....	4	10cs	0	NE	.....	0.38	9.7	Raining	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.75	755.6	30.08	764.0	58	14.4	82	E	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	61.6	16.4	87	NW	6	2.7	.....	4k	0	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.98	761.0	30.16	766.1	53	11.7	62	E	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.40	746.7	30.10	764.5	50	10.0	82	NE	9	4.0	.....	5k	5ks	NE	NE	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.30	744.2	30.04	763.0	54.7	12.6	59	NE	.....	.....	5	.....	10	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.89	759.2	54	12.2	100	NE	20	8.9	.....	.....	10n	.....	SE	0.67	17.0	Heavy rain	H. Morgan.
Port Hastings, N. S	30.10	764.5	30.15	765.8	58.5	14.7	.....	N	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.25	742.9	29.89	759.2	53	11.7	94	N	16	7.2	.....	.....	10n	.....	NE	0.68	17.3	Light rain	M. Payne.
*Quebec, Quebec	29.86	758.4	30.19	766.3	44	6.7	80	NW	.....	.....	1	0	2s	.....	NW	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.69	754.1	30.16	766.1	44	6.7	87	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	30.16	766.1	30.21	767.3	54	12.2	43	SW	.....	.....	1	2c	2s	NW	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.05	763.3	30.21	767.3	55	12.8	68	E	3	1.3	.....	0	5ck	.....	.....	0.34	8.6	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.04	763.0	46	7.8	91	NE	5	2.2	.....	.....	10ks	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.06	763.5	30.10	764.5	62	16.7	57	W	10	4.5	.....	5c	5ks	W	NW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.02	752.3	30.00	762.0	53	11.7	70	NE	15	6.7	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	Magnetic Observatory.
Windsor, N. S	30.16	766.1	30.18	766.6	68.0	20.0	58	W	2	0.9	.....	1c	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock, Ontario	28.87	733.3	29.92	760.0	58	11.7	73	NE	20	8.9	.....	.....	10n	.....	E	0.90	22.9	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.90	759.4	59.0	15.0	88	SW	.....	.....	.....	0	0	.....	.....	0.03	0.8	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.91	759.7	30.14	765.5	53	11.7	93	N	3	1.3	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Alpena, Michigan	29.43	747.5	30.07	763.8	57	13.9	75	NE	7	3.1	.....	5c	0	Calm	.....	0	0	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	49	9.4	93	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	28.74	730.0	29.84	757.9	72	22.2	90	SE	5	2.2	.....	10k	0	SW	.....	0.05	1.3	Cloudy	
Atlantic City, New Jersey	29.99	761.7	30.00	762.0	74	23.3	95	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Threatening	
Augusta, Georgia	29.75	755.6	29.94	760.5	75	23.9	90	SE	1	0.4	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Baltimore, Maryland	29.90	759.4	29.94	760.5	74	23.3	95	SE	7	3.1	.....	5k	5s	SE	SE	0.73	18.5	Threatening	
Barnegat, New Jersey	29.99	761.7	30.01	762.2	73	22.8	95	E	16	7.2	.....	.....	10s	.....	E	0.03	0.8	Cloudy	
Bismarck, Dakota	28.26	717.8	30.12	765.0	54	12.2	87	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.52	724.4	29.79	756.7	67	19.4	64	NW.	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.07	687.6	30.03	762.7	64	17.8	39	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Dense smoke	
Boston, Massachusetts	30.04	763.0	30.19	766.8	59	15.0	88	E	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Brackettville, Texas	28.82	732.0	29.82	757.4	68	20.0	74	NW	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Breckenridge, Minnesota	29.10	739.1	30.10	764.5	50	10.0	100	SE	4	1.8	.....	0	Fog	.....	.....	0	0	Clear	
Brownsville, Texas	29.83	757.7	29.88	758.9	76	24.4	91	Calm	0	0	.....	0	8s	.....	Calm	0.92	23.4	Fair	
Buffalo, New York	29.18	741.1	29.86	758.4	53	11.7	100	NE	18	8.0	.....	.....	10n	.....	NE	1.01	25.7	Heavy rain	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	46	S	.....	.....	1	2cs	0	E	.....	0	0	Clear	
Burlington, Vermont	29.86	758.4	30.15	765.8	52	11.1	66	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Cairo, Illinois	29.58	751.3	29.96	761.0	64	17.8	89	N	14	6.3	.....	.....	10s	.....	N	1.46	37.1	Cloudy	
Campo, California	27.34	694.4	29.91	759.7	58	14.4	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	75	23.9	95	SW	15	6.7	.....	.....	10n	.....	S	0.56	14.2	Heavy rain	
Cape Henry, Virginia	29.93	760.2	29.95	760.7	70	26.1	87	S	12	5.4	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Cape Lookout, N. Carolina	29.97	761.2	29.98	761.5	78	25.6	86	S	15	6.7	.....	.....	10n	.....	S	1.64	41.7	Light rain	
Cape May, New Jersey	29.95	760 7	29.98	761.5	73	22.8	90	S	12	5.4	.....	.....	10n	.....	S	0.24	6.1	Light rain	
Castroville, Texas	29.14	740.1	29.83	757.7	70	21.1	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.89	759.2	29.94	760.5	79	26.1	87	SW	6	2.7	.....	.....	10n	.....	Calm	0.30	7.6	Light rain	
Charlotte, North Carolina	29.16	740.7	29.94	760.5	73	22.8	95	S	6	2.7	.....	.....	10s	.....	S	0.73	18.5	Cloudy	
Chattanooga, Tennessee	29.07	738.4	29.84	757.9	72	22.2	90	S	5	2.2	.....	.....	10s	.....	S	0.09	2.3	Cloudy	
Cheyenne, Wyoning	24.16	613.6	30.10	764.5	54	12.2	87	SW	11	4.9	.....	2k	5s	W	SW	0.02	0.5	Cloudy	
Chicago, Illinois	29.30	744.2	29.98	761.5	61	16.1	66	NE	12	5.4	.....	0	5s	.....	E	Inap.	Inap.	Fair	
Cincinnati, Ohio	29.22	742.2	29.84	757.9	63	17.2	83	N	10	4.5	.....	.....	10ks	.....	N	2.30	58.4	Cloudy	
Cleveland, Ohio	29.05	737.9	29.75	755.6	60	15.6	100	E	8	3.6	.....	.....	10n	.....	NE	2.23	56.6	Heavy rain	
Coleman City, Texas	28.19	716.0	29.81	757.2	65	18.3	63	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28.94	735.1	29.74	755.4	63	17.2	89	NW	6	2.7	.....	.....	10ks	.....	NW	1.50	38.1	Cloudy	
Concho, Texas	28.69	713.5	29.72	754.9	65	18.3	68	NW	7	3.1	.....	0	0	.....	.....	Inap	Inap.	Clear	
Corsicana, Texas	29.50	749.3	29.95	760.7	69	20.6	85	NE	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.42	747.3	30.05	763.3	52	11.1	79	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.46	646.7	.....	.....	52	11.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.83	732.3	29.96	761.0	72	22.2	76	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.19	741.4	29.96	761.0	68	20.0	90	N	3	1.3	.....	2k	2s	NW	NW	0	0	Fair	
Denver, Colorado	24.90	632.4	30.12	765.0	58	14.4	82	NW	3	1.3	.....	2ck	2s	NW	NW	0	0	Fair	
Des Moines, Iowa	29.21	741.9	30.08	764.0	55	12.8	81	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.23	742.4	29.89	759.2	52	11.1	93	N	12	5.4	.....	.....	10s	.....	NE	0.62	15.7	Threatening	
Dodge City, Kansas	27.52	699.0	29.77	756.1	59	15.0	94	NE	4	1.8	.....	5c	Haze	N	Calm	0	0	Hazy	
Dubuque, Iowa	29.39	746.5	30.09	764.3	52	11.1	73	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.47	748.5	30.14	765.5	54	12.2	80	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Eagle Pass, Texas	29.18	741.1	29.88	758.9	70	21.1	90	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.14	740.1	30.21	767.3	56	13.3	63	N	4	1.8	.....	8ck	Haze	W	Calm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.28	667.5	.....	.....	61	16.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.10	739.1	29.80	756.9	55	12.8	100	NE	13.	5.8	.....	.....	10n	.....	E	2.26	57.4	Heavy rain	
Escanaba, Michigan	29.49	749.0	30.15	765.8	49	9.4	78	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	82	27.8	52	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.97	710.4	29.76	755.9	56	13.3	74	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Fort Davis, Texas	25.29	642.4	30.25	768.3	56	13.3	75	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.98	761.5	69	20.6	85	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	75	23.9	37	E	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.77	730.7	30.01	762.2	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.40	696.0	.....	.....	58	14.4	69	N	1.	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.75	704.8	29.62	752.3	64	17.8	73	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.88	758.9	67	19.4	89	N	6	2.7	.....	10ck	0	NE	.....	0.13	3.3	Cloudy	
Fort Stevenson, Dakota	28.24	717.3	.....	...	51	10.6	93	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	67	19.4	64	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.55	750.6	74	23.3	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.88	758.9	29.92	760.0	76	24.4	91	NW	6	2.7	.....	2k	2ks	NW	Calm	0.63	16.0	Fair	
Graham, Texas	28.92	734.6	29.94	760.5	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.38	746.2	30.02	762.5	55	12.8	68	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.05	737.9	29.96	761.0	68	20.0	84	NE	6	2.7	.....	Haze	2s	.....	NE	0	0	Hazy	
Indianapolis, Indiana	29.14	740.1	29.90	759.4	58	14.4	88	N	4	1.8	.....	.....	10s	.....	Calm	0.47	11.9	Cloudy	
Indianola, Texas	29.92	760.0	29.95	760.7	75	23.9	90	SW	9	4.0	.....	5c	2s	Calm	SW	1.45	36.8	Fair	
Jacksboro, Texas	28.76	730.5	29.95	760.7	70	21.1	75	Calm	0	0	.....	2ck	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.93	760.2	29.95	760.7	80	26.7	82	S	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.39	746.5	29.99	761.7	59	15.0	70	NE	9	4.0	.....	8k	0	N	.....	0	0	Fair	
Key West, Florida	29.90	759.4	29.93	760.2	83	28 3	79	SE	2	0.9	.....	2k	0	SE	.....	0.18	4.6	Fair	
Kittyhawk, North Carolina	29.90	759.4	29.93	760.2	77	25.0	95	SW	20	8.9	.....	10cs	0	SW	.....	0.42	10.9	Cloudy	
Knoxville, Tennessee	28.88	733.5	29.83	757.7	71	21.7	90	Calm	0	0	.....	.....	10ks	.....	SW	0.18	4.6	Threatening	
La Crosse, Wisconsin	29.38	746.2	30.12	765.0	49	9.4	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.16	664.4	30.30	769.6	59	15.0	52	NW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Laredo, Texas	29.52	749.8	29.85	758.2	80	26.7	62	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.21	741.9	30.04	763.0	58	14.4	88	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.65	753.1	30.00	762.0	65	18.3	94	N	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Los Angeles, California	29.50	749.3	29.83	757.7	66.5	19.2	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.33	745.0	29.87	758.7	60	15.6	88	SW	14	6.3	.....	.....	10s	.....	SW	2.96	75.2	Cloudy	
Lynchburg, Virginia	29.25	742.9	29.90	759.4	74	23.3	86	S	2	0.9	.....	.....	10n	.....	S	0.01	0.3	Light rain	
Madison, Wisconsin	29.08	738.6	30.06	763.5	50	10.0	79	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.42	747.3	30.13	765.3	49	9.4	71	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.36	720.3	30.07	763.5	67	19.4	69	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Memphis, Tennessee	29.60	751.8	29.93	760.2	64	17.8	88	NW	12	5.4	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Milwaukee, Wisconsin	29.31	744 5	30.02	762.5	58	14.4	70	NE	12	5.4	.....	8k	0	E	.....	0	0	Fair	
Mobile, Alabama	29.86	758.4	29.90	759.4	73	22.8	100	S	2	0.9	.....	.....	10n	.....	SW	0.44	11.2	Light rain	
Montgomery, Alabama	29.67	753.6	29.90	759.4	76	24.4	86	SW	4	1.8	.....	2k	0	SW	.....	0.01	0.3	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.82	732.0	29.75	755.6	73	22.8	81	SW	8	1.3	.....	.....	10ks	.....	SW	1.77	45.0	Cloudy.....	
Mt. Washington, N. H.....	23.97	608.8	30.33	770.4	37	2.8	63	W	10	4.5	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Nashville, Tennessee.....	29.34	745.2	29.86	758.4	67	19.4	89	N	1	0.4	.....	.....	10n	.....	Calm	0.74	18.8	Heavy rain..	
New Haven, Connecticut....	30.02	762.5	30.14	765.5	59	15.0	88	E	12	5.4	.....	.....	10n	.....	Calm	0.13	3.3	Light rain...	
New London, Connecticut...	30.11	764.8	30.16	766.1	60	15.6	77	E	14	6.3	.....	.....	10s;n	.....	Calm	0.01	0.3	Threatening	
New Orleans, Louisiana.....	29.83	757.7	29.89	759.2	78	25.6	73	W	6	2.7	.....	8cs	0	W	.....	0	0	Fair.....	
Newport, Rhode Island.....	30.12	765.0	30.17	766.3	62.5	16.9	70	E	12	5.4	.....	.....	10n	.....	Calm	Inap	Inap.	Light rain...	
New York, New York.....	29.88	758.9	30.06	763.5	63	17.2	100	E	15	6.7	.....	.....	10n	.....	W	0.31	7.9	Light rain...	
Norfolk, Virginia.....	29.89	759.2	29.94	760.5	78	25.6	86	S	9	4.0	.....	.....	10s	.....	SW	0.07	1.8	Threatening	
North Platte, Nebraska	27.21	691.1	29.75	755.6	55	12.8	90	E	5	2.2	.....	2c	Fog	E	Calm	0	0	Fair.....	
Olympia, Washington Ter..	30.00	762.0	30.04	763.0	51.0	10.6	93	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Omaha, Nebraska.....	28.95	735.3	30.03	762.7	58	14.4	82	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York.....	29.72	754.9	30.04	763.0	53	11.7	93	SE	14	6.3	.....	.....	10n	.....	Calm	0.34	8.6	Light rain..	
Pembina, Dakota.....	29.20	741.7	30.02	762.5	49	9.4	100	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa.....	29.93	760.2	29.98	761.5	72	22.2	95	E	6	2.7	.....	.....	10s;fg	.....	Calm	0.69	17.5	Cloudy.....	
Phœnix, Arizona.....	28.65	727.7	30.32	770.1	87	30.6	34	SE	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Pike's Peak, Colorado.....	18.00	457.2	30.21	767.3	32	0.0	59	N	20	8.9	.....	10k	0	N	.....	0.03	0.8	Cloudy.	
Pilot Point, Texas.....	29.09	738.9	29.87	758.7	74	23.3	81	SE	10	4.5	.....	2k	0	S	.....	0	0	Fair	
Ploche, Nevada.....	.....	.....	.....	.....	64	17.8	21	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.....	
Pittsburg, Pennsylvania.....	28.98	736.1	29.75	755.6	70	21.1	85	SW	5	2.2	.....	1ck	7s	Calm	W	0.40	10.2	Clearing.....	
Port Huron, Michigan.....	29.26	743.2	29.91	759.7	54	12.2	87	NE	19	8.5	.....	.....	10n	.....	NE	0.26	6.6	Light rain...	
Portland, Maine.....	30.17	766.3	30.22	767.6	56	14.4	70	N	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Portland, Oregon.....	29.99	761.7	30.06	763.5	57.5	14.2	86	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona.....	24.76	628.9	30.12	765.0	63	17.2	55	W	.....	.....	1	10k	0	N	.....	0	0	Cloudy.....	
Punta Rassa, Florida.....	29.92	760.0	29.94	760.5	82	27.8	79	E	7	3.1	.....	2cs	2ks	SW	Calm	0	0	Fair.....	
Red Bluff, California.....	29.43	747.5	29.77	756.1	82	27.8	30	W	4	1.8	.....	10k	0	S	.....	0	0	Cloudy.....	
Rio Grande City, Texas.....	29.74	755.4	29.96	761.0	72	22.2	95	N	4	1.8	.....	0	8s	.....	N	2.95	74.9	Clearing.....	
Rochester, New York.....	29.34	745.2	29.95	760.7	55	12.8	93	SE	9	4.0	.....	.....	10n	.....	Calm	0.31	7.9	Light rain...	
Roseburg, Oregon.....	29.47	748.5	30.04	763.0	55.5	13.1	81	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sacramento, California.....	29.71	754.6	29.79	756.7	68	20.0	56	S	6	2.7	.....	0	5s	.....	S	0	0	Fair.....	
St. Louis, Missouri.....	29.42	747.3	29.98	761.5	60	15.6	82	N	10	4.5	.....	.....	10s	.....	N	0.41	10.4	Cloudy.....	
St. Marks, Florida.....	29.91	759.7	29.93	760.2	77	25.0	95	Calm	0	0	.....	1c	0	Calm	.....	0.65	16.5	Clear.....	
St. Paul, Minnesota.....	29.26	743.2	30.09	764.3	54	12.2	73	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah.....	25.63	651.0	29.96	761.0	67	19.4	29	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas.....	29.27	743.4	29.84	757.9	72	22.2	76	N	4	1.8	.....	0	0	.....	.....	0.20	5.1	Clear.....	
San Diego, California.....	29.80	756.9	29.86	758.4	67	19.4	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.16	740.7	29.81	757.2	61	16.1	94	NE	44	19.7	.....	.....	10n	.....	NE	2.69	68.3	Light rain...	
Sandy Hook, New Jersey....	30.00	762.0	30.03	762.7	68	20.0	84	SE	36	16.1	.....	.....	10s	.....	SE	0.23	5.8	Cloudy.....	
San Francisco, California..	29.81	757.2	29.88	758.9	53	11.7	93	W	8	3.6	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico.....	23.44	595.4	29.98	761.5	56	13.3	51	E	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear.	
Savannah, Georgia.....	29.86	758.4	29.95	760.7	79	26.1	82	SW	3	1.3	.....	2c	0	Calm	.....	0.48	12.2	Fair.....	
Shreveport, Louisiana.....	29.74	755.4	29.96	761.0	67	19.4	79	NE	4	1.8	.....	Haze	0.	Calm	.....	0	0	Clear.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.96	761.0	29.99	761.7	80	26.7	96	S	11	4.9	.....	8cs	0	S	.....	1.80	45.7	Cloudy.....	
Socorro, New Mexico.....	25.50	647.7	29.57	751.1	63	17.2	62	S	4	1.8	.....	2ck	1s	S	Calm	Inap.	Inap	Fair.....	
Springfield, Ill	29.34	745.2	30.00	762.0	57	13.9	81	N	11	4.9	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Springfield, Massachusetts	30.05	763.3	30.18	766.6	56	13.3	87	N	5	2.2	.....	.....	10n	.....	NE	0.05	1.3	Light rain...	
Stockton, Texas.....	27.00	685.8	30.00	762.0	62	16.7	.....	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.....	30.16	766 1	30.21	767.3	62	16.7	77	SE	10	4.5	.....	.....	10n	.....	SE	0.03	0.8	Light rain...	
Toledo, Ohio, ...	29.22	742.2	29.90	759.4	53	11.7	94	NE	12	5.4	.....	.....	10n	.....	NE	0.89	22.6	Light rain...	
Tucson, Arizona.....	27.46	697.5	30.01	762.2	82	27.8	52	Calm	0	0	.....	5ck	0	SE	.....	0	0	Fair.....	
Umatilla, Oregon.....	29.55	750.6	30.02	762.5	68.0	20.0	51	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.01	736.8	29.81	757.2	69	20.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.67	753.6	29.92	760.0	68	20.0	95	N	7	3.1	.....	.....	10s	.....	N	1.00	25.4	Cloudy.....	
Virginia City, Montana.....	24.34	618.2	29.82	757.4	62	16.7	36	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California.....	29.43	747.5	29.79	756.7	65	18.3	61	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.82	757.4	29.92	760.0	74	23.3	90	S	5	2.2	.....	.....	10s;fg	.....	S; Calm	0.59	15.0	Threatening	
Wickenburg, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina.....	29.88	758.9	29.96	761.0	78	25.6	86	S	2	0.9	.....	5ck	0	Calm	.....	0.66	16.8	Fair.....	
Winnemucca, Nevada.....	25.61	650.5	29.97	761.2	54	12.2	38	SW	7	3.1	.....	0	4s	.....	Calm	0	0	Fair.....	
Wood's Holl, Mass.....	30.14	765.5	30.18	766.6	64	17.8	62	SE	14	6.3	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain...	
Yankton, Dakota.....	28.84	732.5	30.13	765.3	54	12.2	50	E	1	0.4	.....	2ck	Fog	Calm	Calm	0.08	2.0	Fair.....	
Yuma, Arizona.....	29.60	751.8	29.75	755.6	83	28.3	64	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. 1.....	29.88	758.9	29.93	760.2	83	28.3	70	SE	2.4	1.1	.....	8c	0	Calm	.....	0	0	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. 1...	30.10	764.5	30.11	764.8	80	26.7	88	SE	.....	.....	.....	8ck	2n	E	.....	0.55	14.0	Cloudy.....	Chas. Hasselbrink.
Medellin, Colombia, S. A..*	25.23	640.8	.....	.....	66.5	19.2	85	Calm	.....	.....	0	.....	10n	.....	.....	0.08	2.0	.....	James Gall.
Navassa, W. 1.....	29.82	757.4	29.90	759.4	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0.71	18.0	Fair.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	29.99	761.7	29.99	761.7	83	28.3	79	SE	.....	.....	2	0	5k	.....	.....	2.080	52.83	Clear.....	F. M. Everett.
Santiago de Cuba, W. 1...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Hering.
St. Thomas, W. 1.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.....	29.61	752.1	29.62	752.3	84	28.9	75	NE	3	1.3	.....	2c	2ks	E	.....	0	0	Hazy.....	G. O. Gellich.
.....	29.96	761.0	30.01	762.2	38.0	3.3	95	NW	12	5.4	.....	2k	0	NE	.....	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bracketville, 1,026(?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Still, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.. Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.15‡	765.8‡			81	27.2	87	SW	9	4.0			5		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.73‡	755.1‡			79.5	26.4	86	SW			2		Haze		Calm	0	0			Clear	
Adams, Mare I'd., Navy Yard, Cal.	29.88‡	758.9‡			59	15.0	88	SW			2		10							Cloudy	
Alaska, N. 30° 34′, W. 118° 55′	29.88‡	758.9‡			63	17.2	89	NW			4		10		SE	0	0	Smooth	SE	Overcast	
Alliance, Reval, Russia	29.90‡	759.4‡			61	16.1	82	NNE			2		7		NNE					Cloudy	
Ashuelot, Yokohama, Japan	29.75‡	755.6‡			81	27.2	87	SSW			2		2					Smooth		Clear	
Colorado, New York, N. Y.	30.03‡	762.7‡			64	17.8	100	ENE	4	1.8			10			0.98	24.9			Heavy rain.	
Constellation, Newport, R. I.	30.15‡	765.8‡			62	16.7	72	ESE			4		10			Light	Light			Drizzling	
Constitution, Navy Yard, Brooklyn, N.Y.	30.07‡	763.6‡			64	17.8	100	E			2		10		ESE					Rainy	
Enterprise, Cowes, England	29.60‡	751.8‡			65	18.3	78	SW			4–5		5?		SW			Smooth		Clear?	
Essex, Rio de Janeiro, Brazil	30.37‡	771.4‡			69	20.6	95	N			1		0					Smooth		Clear	
Franklin, Norfolk, Va.	29.95‡	760.7‡			77	25.0	91	SSE	13.2	5.9			10		SSE	0.1	3.			Cloudy	
Hartford, Rio de Janeiro, Brazil	30.35‡	770.9‡			69	20.6	75	N			1		2		N	0	0			Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.92‡	760.0‡			61	16.1	88	NW	2.4	1.1			2		NW					Clear	
Kearsarge, N. 46° 50′, W. 61° 40′	30.12‡	765.0‡			58	14.4	70	N			3		3		N			Smooth		Clear	
Michigan, Chicago, Ill.	29.91‡	759.7‡			61.5	16.4	80	N			6		8		NE					Cloudy	
Monocacy, Shanghai, China	29.77‡	756.1‡			87	30.6	76	SSE			1		0							Clear	
Monongahela, N. 39° 35′, E. 142° 40′	29.72‡	754.9‡			73	22.8	85	WSW			3		kn			0	0	Light	S;W	D. clouds	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡			80	26.7	52	SSW	10	4.5			2		SSW	0.02	5.			Fair	
Onward, Callao, Peru	30.01‡	762.2‡			61	16.1	88	SSE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.82‡	757.4‡			84	28.9	97	S			1		0							Clear	
Passaic, Washington, D. C.	29.94‡	760.5‡			76	24.4	95	SW			1		8							Cloudy	
Pensacola, Callao, Peru	30.03‡	762.7‡			62	16.7	83	SSE	1	0.4			10					Smooth		Overcast	
Portsmouth, Portland, Maine	30.24‡	768.1‡			56	13.3	75	NE			1		10		Calm	0	0	Smooth		Threatening	
Powhatan, Navy Yard, Pensacola, Fla.	29.89‡	759.2‡			82	27.6	83	SSW			2		8		SW	0.07	1.8			Cloudy	
Quinnebaug, Trieste, Austria	29.84‡	757.9‡			63	28.3	59	NW			1		2		NW					Fair	
Ranger, Nagasaki, Japan	§. 29.86‡	758.4‡			86	30.0	92	SW			2–3		2		Calm					Clear	
Richmond, Yokohama, Japan	29.75‡	755.6‡			83	28.3	83	SSW			1		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.88‡	758.9‡			73	22.8	100	NNW			1		8		Calm	1.02	25.9			Cloudy	
Santee, Annapolis, Md.	29.96‡	761.0‡			73	22.8	85	SSE			5		8		S	2.08	52.8			Cloudy	
Saratoga, Newport, R. I.	30.18‡	766.6‡			64	17.8	78	SSE			5		10		S;E					Drizzling	
St. Louis, League Island, Pa	29.99‡	761.7‡			74	23.3	95	ESE	8	3.6			10		S	0.63	16.0			Cloudy	
Trenton, Gravesend, Eng.	29.65‡	753.1‡			69	20.6	70	SSE			3		10		N;W	0	0	Smooth		Hazy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.88‡	758.9‡			59	15.0	88	SSW			2		8		Calm	0	0	Smooth		Hazy	
Vandalia, N. 25° 50′, W. 83° 36′	29.92‡	760.0‡			84	28.9	75	NNE			1		5		NE					Fair	
Wabash, Boston, Mass.	30.17‡	766.3‡			63	17.2	89	NE	2	0.9			10			0	0			Overcast	
Wachusett, N. 33° 20′, W. 74° 30′	30.04‡	763.0‡			80	26.7	91	SSE			6		10		SSE			Mod'ate	SE	Cloudy	
Wyoming, Trebizond, Asia Minor	29.88‡	758.9‡			72	22.2	76	NE			1–2		2		NE			Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, La Libertad, N. 13° 28′, W. 89° 18′†		29.94‡	760.5‡	76	24.4	??	NNE			2		9		Calm	0.24 in. or 6.1 mm	Short irregular	SE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		29.95‡	760.7‡				SW			3		0						Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.92‡	760.0‡	87	30.6	76	W			3		9k			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 44° 55′, E. 163° 36′		29.48‡	748.8‡	62	16.7	94	W			3		9		W		2	S	Showery	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 38′, W. 8° 18′		29.99‡	761.7‡				N			7		8		N	0	Long	NNW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 07′, W. 36° 17′		29.86‡	758.4‡				W			4		10		W	4	SW		Foggy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.60‡	751.8‡	67	19.4	89	S			4		9		S	Mod'ate			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 32° 18', W. 23° 54'		30.22‡	767.6‡	74	23.3	86	ENE			5		4				3	E	D. clouds	Capt. W. Randall. Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

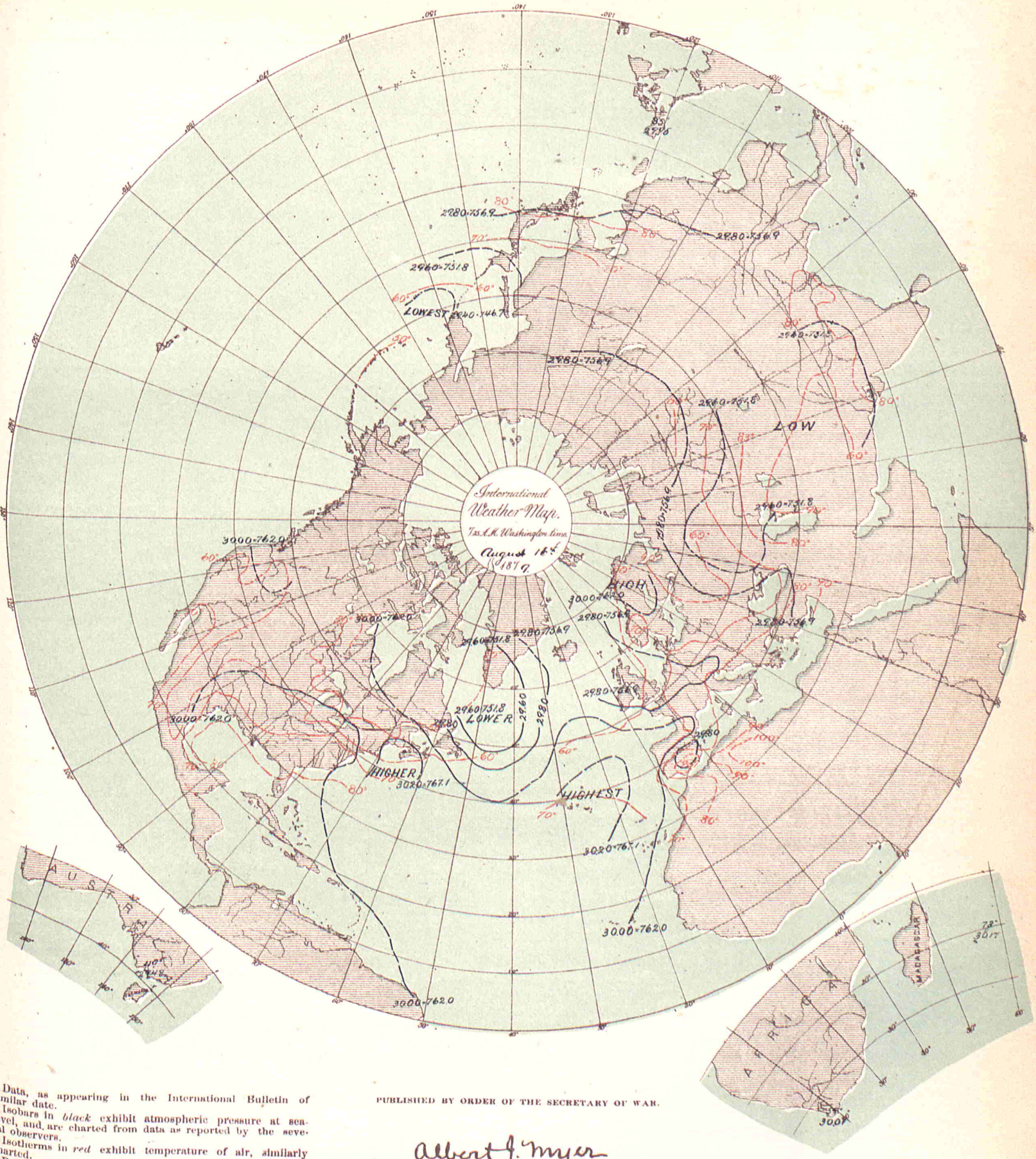
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	....	.....	30.01	762.3	69.1	20.6	86	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.91	759.8	81.5	27.5	68	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxnche.
Algiers	.....	.....	29.87	758.8	79.5	26.4	78	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.91	759.8	81.7	27.6	74	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.89	759.1	91.8	33.2	17	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.96	761.0	90.3	32.4	28	NE	.....	.....	2	.....	2	.....	.....	0.382	9.7	Fair	Watrin.
Geriville	.....	.....	.....	.....	80.6	27.0	43	SSE	.....	.....	7	.....	5	.....	.....	[illegible]	[illegible]	Cloudy.	Brugnlaux.
Laghouat	.....	.....	29.89	759.3	98.2	36.8	41	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.90	759.4	100.4	38.0	37	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.80	744.2	29.83	757.6	74.1	23.4	67	SW	.....	.....	3	.....	5	.....	.....	0.839	21.3	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.05	737.8	29.78	756.3	77.0	25.0	58	ENE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.97	735.9	29.81	757.2	73.4	23.0	68	S	.....	.....	2	10c	.....	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.59	726.2	29.70	756.6	71.8	22.1	74	NE	.....	.....	2	.....	8	.....	.....	0.004	0.1	.....	Andreas Rospini.
Hermannstadt	28.47	723.0	29.81	757.2	80.2	26.8	60	WNW	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.59	726.2	29.89	759.3	65.8	18.5	77	W	.....	.....	2	.....	8	.....	.....	0.102	2.6	.....	Prof. C. Wagner.
Lemberg	28.82	732.0	29.76	756.0	69.6	20.9	85	W	.....	.....	1	.....	0	.....	.....	0.85	8.9	.....	Dr. T. Stanecki.
Pola	29.76	756.0	29.87	758.6	82.6	28.1	63	S	.....	.....	3	.....	5	.....	.....	0.079	2.0	.....	I.R.HydrographicOffice.
Szathmar	29.42	747.3	29.87	758.7	79.9	26.6	38	NW	.....	.....	3	.....	7	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.53	750.1	29.80	756.9	75.4	24.4	65	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.79	756.7	29.89	759.3	68.0	20.0	90	E	.....	.....	1	.....	10	.....	.....	2.020	51.3	Thunder-storm	P. Busin.
Vienna	29.16	740.6	29.89	759.1	69.6	20.9	76	W	.....	.....	4	.....	9	.....	.....	0.039	1.0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.43	747.5	29.53	750.0	55.4	13.0	.....	NE	11	4.9	.....	.....	.....	.....	.....	1.010	25.65	Foggy	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.41	747.0	29.63	752.6	55.3	12.9	.....	NW	8	3 6	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.45	748.0	55.8	13.2	.....	WNW	32	14.3	.....	.....	10	.....	.....	.....	.....	Raining.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.42	747.3	56.2	13.4	.....	NE	6	2.7	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.66	16.8	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.85	758.2	29.88	758.9	84	28.9	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.38	746.2	29.48	748.8	56.0	13.3	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	H. Todd.
Cardington	.....	.....	29.48	748.8	56.0	13.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	John McLaren.
Chatham, School M. E.	29.44	747.8	29.57	751.1	53.8	12.1	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.50	749.3	29.64	750.3	55	12.8	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.59	751.6	29.61	752.1	59	15.0	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Drizzling	J. Costello.
Falmouth, Observatory	29.59	751.6	29.81	757.2	60.4	15.8	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	76	24.4	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	Drizzling.....	
Galway, Queen's College	.....	.....	29.68	753.9	60	15.6	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.82	757.4	29.85	758.9	60.2	26.8	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.28	743.7	29.40	749.0	61.9	16.6	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.48	748.8	29.48	748.8	61	16.1	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.40	746.7	29.57	751.1	53.8	12.1	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.56	750.8	29.78	756.4	60	15.6	.....	WSW	.....	.....	4	.....	8	.....	.....	Blank	Blank	D. clouds.....	Dr. S.E.Hoskins,F.R.S.
Helston	29.70	754.4	29.81	757.2	62	16.7	.....	NE	.....	.....	1	.....	3k	.....	.....	0.65	16.5	Fine.....	M. P. Moyle.
Holyhead	29.53	750.0	29.56	750.8	53	11.7	.....	WNW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	John Tilston.
Jersey	29.55	750.6	29.84	757.9	59.7	15.4	.....	W	.....	.....	4	.....	6	.....	.....	Blank	Blank	D. clouds.....	J. Fisher.
Kew, Observatory	29.54	750.3	29.68	753.3	54.4	12.4	.....	SW	20	8.9	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum	29.20	741.7	29.45	748.0	58.0	14.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.80	756.9	29.87	758.7	84.0	28.9	.....	NW	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.45	748.0	29.54	750.3	57	13.9	.....	ENE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.86	758.4	77.0	25.0	.....	S	.....	.....	1	.....	10n	.....	.....	.....	.....	Heavy rain.	C. S. Duncombe.
Nottingham, Observatory	29.40	746.7	29.68	753.3	58.0	14.4	.....	ESE	.....	.....	3	.....	10kd	.....	S	0.396	10.06	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.97	735.8	29.49	749 0	51.9	11.1	.....	WSW	.....	.....	4-5	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.56	750.8	54	12.2	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.68	753.9	29.75	755.6	62.8	17.1	.....	NW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.70	754.4	29.82	757.4	61	16.1	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded..	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.66	753.4	57.3	14.1	.....	E	24	10.7	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.56	758.4	29.92	760.0	88.0	31.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	2	.....	.....	.....	.....	0.17	4.3	Showery	W. F. Cooper.
Silloth Rectory	29.42	747.3	29.45	748.0	59 0	15.0	94	W	.....	.....	2	.....	5	.....	.....	0.300	7.62	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.60	749.3	57.4	14.1	.....	SE	0	0	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	54.8	12.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.82	757.4	29.83	757.7	65	18.3	.....	W	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.79	756.7	29.81	757.2	58.9	14.9	.....	W	17	7.6	.....	.....	8	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.00	762.0	30.04	763.0	66.0	18.3	.....	NNW	17.4	7.8	.....	10	10	.....	.....	0.210	5.33	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.62	749.8	66.1	13.4	.....	E	.....	.....	1	.....	10n	.....	.....	0.11	2.8	Overcast.....	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.3	72.6	22.6	69	SE	17.0	7.6	.....	0	4	.....	ESE	0.01	0.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29.82	757.4	29.91	759.7	45.0	7.2	83	WNW	20	8.9	.....	.....	6	.....	.....	0	0	Boisterous..	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 50', E. 29° 10'	.....	.....	D. clouds....	Capt. W. J. L. Wharton.
Algeria, N. 43° 10', W. 48° 05'	3	WNW	D. clouds....	Capt. Wm. Watson.
Atmosphere, N. 53° 00' E. 4° 35'	5	WSW	Squally.....	.....
German Brig "W. von Freeden" N. 43° 55', W. 42 45'	4	NW	D. clouds....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
San José	26.24	666.5	29.96	761.0	65.8	18.8	93	NE			1	9cs				0.2	5.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.79	756.6	29.84	757.8	65.3	18.5	66	SE			4		9					
Faröe	29.74	755.8	29.76	755.8	62.2	16.8	78	S			4		9					
Godthaab (Greenland)	29.43	747.5	29.47	748.6	48.6	9.2	83	NNE			4		4					Foggy
Stykkisholm (Iceland)	29.78	756.3	29.83	757.4	54.7	12.6	82	Calm			0		0					
Thorshavn (Faröe)	29.80	756.9	29.84	757.8	55.4	13.0	95	Calm			0		10					
Vestervig	29.66	753.4	29.77	756.2	59.0	15.0	98	ESE			6		10					Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.6	29.87	758.6	64.0	17.8	74	S			2		8kn		SW	0.165	4.2	Raining	Colignon, Director.
Amiens, Normal School	29.65	753.2	29.76	755.9	61.9	16.6	79	S			3		10			0.83	21.	Covered	Bonvallet, Director.
Arras, Engin'r School	29.49	749.0	29.74	755.4	58.1	14.5	83	SW			3				W	0.299	7.6		Klein, Commandant.
Avignon, Normal School	29.58	750.0	29.96	761.0	60.2	26.8	81	N			2		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.38	746.2	29.92	760.0	64.8	18.2	55	SW			2		8kn		SW	0.020	0.5	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.52	749.9	29.78	756.5	63.1	17.3	73	SSW			2		10		SW	0.108	2.75	Covered	Frere Eugene Marie,
Besançon, Normal School	29.12	739.7	29.99	761.8	67.3	19.6	51	SW			1		2	SW		0.205	5.2	Slightlycl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.14	740.1	30.07	763.6	69.1	20.6	59	W			1		2ck	W	W	0.35	9.	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.47	748.5	30.02	762.4	63.5	17.5	80	WSW			3		n		WSW	0.16	4.		M. Gence, Director.
Brest, Naval Observatory	29.69	751.9	29.85	758.1	63.0	17.2	80	W			2		10		NW	0.079	2.00		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.9	30.04	763.1	75.6	24.2	39	W			3		5	WNW	WNW	0	0	Cloudy	Septumber, Dir.
Caen, Normal School	29.65	753.2	29.72	755.0	63.3	17.4	70	E			1		8		W	0	0	Very cloudy	M. Bletrin, Director.
Chartres, Normal School	29.35	745.5	29.08	753.8	77.5	25.3	61	SW			3		10		SW	0.134	3.4	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.55	750.5	29.55	758.3	70.3	21.3	62	SSW			2		10					Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.66	727.9	29.98	761.4	68.4	20.2	45	W			1		10		W	0	0		Allnard, Director
Commercy, Normal School	29.10	739.1	29.94	760.4	63.3	17.4	90	SW			5		2kn	SW	SW	0	0	Slightly cl'dy	Dr. Coulet, Director
Commune de Gréasque*	28.86	733.0	30.00	762.0	76.3	24.6	24	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.1	30.00	762.0	69.1	20.6	71	NE			6		5k			0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.87	758.6	30.08	764.0	64.4	18.6	71	WSW			5		10		WSW	0.016	0.4	Covered	Mouillot, Director.
Le Mans, Normal School	29.68	754.2	29.88	758.9	58.1	14.5	91	SW			5		5		SW	0.148	3.75	Cloudy	Poirrier, Director
Louis-Le-Saulnier, N.School	29.12	739.6	30.02	762.4	62.6	17	79	SSW			1	c		SSW	SSW	0.47	12.		A. Baudry, Director.
Lorient, Naval Observatory	29.83	757.6	29.94	760.4	61.2	16.2	91	WSW			3			W	SW	0.024	0.6		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.39	746.5	29.90	761.7	70.7	21.5	49	E			1		5		WSW	0.398	10.1	Cloudy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.65	753.1	29.91	759.8	77.0	25.3	28	W			3		2		W	Inap.	Inap.		E. Stephan, Director
Mirecourt, Normal School	28.90	734.0	29.92	760.0	63.8	17.4	59	SW			3		8kn	WSW	WSW			Very cloudy	Barbier, Director.
Mont-Louis	24.90	632.4	30.21	767.4	64.4	18.0	62	SW	29.8	13.3			10		NW			Raining	M. Cave.
Nice	29.81	757.2	29.85	758.1	80.6	27.0	64	SW			3			W	SW	0	0	Misty	M. Boissieré, Director.
Nismes, Normal School	29.76	755.9	29.91	759.7	90.7	32.6	49	NE			1		2		W	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.57	751.0	63.7	17.6	60	SW			3		10		WSW	0.012	0.3		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.58	573.6			48.9	9.4		NW			2		1		NW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.91	759.8	30.02	762.4	71.6	22.0	43	NW	15.0	6.7			9			0	0	Threatening	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.7			43.7	6.5	79	W			2		5			0.118	3.0		Allnard, Director.
Rochefort, Naval Obs'y	30.03	762.7	30.04	762.9	68.4	20.2	69	W			4		8	W	W	0.08	2.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.67	754.5	29.75	755.7	58.6	14.8	89	SSW			2		10		W	0.394	10.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.80	757.0	29.84	757.8	61.7	16.5	75	WNW			3		8	WNW	WNW	0.187	4.75	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.67	753.7	29.84	758.0	63 6	17.7	64	SSW			3		10		SW	0.126	3.2		E. Renou, Director.
Tarbes, Normal School	29.13	739.8	30.18	766.5	71.6	22	74	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.39	746.4	30.11	764.8	70.5	21.4	42	WNW			3		3			0	0		M. Julier Mercadier.
Tours	29.73	755.1	29.93	760.1	66.6	19.2	67	SW			3		10		W	0.185	4.7	Rainy	Cousin-Marquet.
Versailles, Observatory	29.35	745.4	29.84	757.9	63.7	17.6	59	W			3					0.165	4.21		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.34	745.2	30.03	762.7	74.3	23.5	71	NE			1		2		NE	0.083	2.1	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.65	753.1	29.68	753.8	81.3	27.4										0.47	12.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.81	757.1	29.83	757.7	80.6	27.0	77	WSW	6.3	2.8			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 635.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1–12)	Clouds. Amount. Up'er (1–10)	Clouds. Amount. Low'r (1–10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.08	738.5	29.91	759.8	68.0	20.0	53	SW	.....	.....	4	.....	2	SW	.....	0.035	0.9	.....	Prof. Dr. Hoh.
Berlin	29.68	753.9	29.85	758.1	68.0	20.0	60	W	.....	.....	1	.....	4	.....	.....	0.368	9.1	Raining	Prof. Dr. Arndt.
Breslau	29.35	745.5	29.92	759.9	61.7	16.5	96	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Royal University Ob's'y.
Carlsruhe	29.50	749.4	29.92	760.0	68.0	20.0	52	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	Albert Senz.
Cassel	29.26	743.1	29.86	758.4	70.2	21.2	69	SSW	.....	.....	4	.....	6	SSW	.....	0.214	5.44	.....	Dr. H. Möhl.
Crefeld	29.60	751.9	29.76	756.0	66.4	19.1	58	S	.....	.....	7	.....	6k	.....	.....	0.12	3	.....	Director Lose.
Emden	.....	.....	29.70	754.4	62.8	17.1	76	S	.....	.....	5	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.52	749.8	29.88	758.9	70.3	21.3	.....	SSW	.....	.....	4	.....	4	.....	.....	0.071	1.8	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.56	725.3	29.96	760.9	64.6	18.1	68	W	.....	.....	3	.....	10	NW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.72	754.9	29.79	756.6	67.6	19.8	57	S	.....	.....	4	.....	5k	.....	.....	0.102	2.6	.....	Captain F. Hegemann.
Kiel	29.77	756.1	29.78	756.5	65.8	18.7	74	S	.....	.....	2	.....	8	.....	.....	0.308	7.83	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.80	756.8	29.88	758.9	67.3	19.6	52	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.82	757.5	67.6	19.8	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.45	748.1	29.86	758.4	71.4	21.9	47	WSW	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.86	758.4	29.91	759.6	66.2	19.0	63	NNW	.....	.....	3	.....	6s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.16	715.3	30.02	762.6	63.7	17.6	56	W	.....	.....	4	.....	9	.....	.....	0.472	12.0	.....	Dr. C. Lang.
Neufahrwasser	29.89	759.1	29.90	759.5	63.7	17.6	63	NE	.....	.....	2	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.52	749.9	29.80	756.9	71.4	21.9	48	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.43	747.4	29.96	760.9	69.4	20.8	41	WSW	.....	.....	4	.....	8	W	.....	0.202	5.13	.....	Imp. University Observatory.
Stuttgart	28.97	735.9	29.88	758.9	69.8	21.0	38	W	.....	.....	3	.....	3	W	.....	0.051	1.3	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.7	29.93	760.1	64.6	18.1	56	Calm	0	0	.....	....	9ck	.....	.....	0.394	10.0	.....	T. Hopfner.
Wustrow	29.78	756.5	29.81	757.2	61.3	16.3	90	SE	.....	.....	2	.....	10ks	.....	.....	0.532	13.5	.....	E. Schulz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.93	760.3	64.4	29.1	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.3	29.59	751.6	83.8	28.8	68	WSW	12.0	5.4	.....	.....	8	.....	WSW	0	0	D. clouds	
Deesa	29.19	741.4	29.66	753.4	79.7	26.5	89	WNW	5.4	2.4	.....	.....	7	.....	ENE	0	0	Overcast	
Bombay	29.71	754.6	29.74	755.5	77.3	25.2	91	WSW	19.0	8.5	.....	.....	10	.....	WSW	0.40	10.2	Raining	
Poona	27.89	708.5	29.76	755.9	72.8	22.7	90	W	17.0	7.6	.....	.....	10	.....	W	0.02	0.5	Drizzling	
Lahore	28.81	731.7	29.52	749.9	94.1	34.5	48	E	6.1	2.7	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.27	692.8	29.85	758.2	67.4	19.7	97	WSW	11.0	4.9	.....	.....	10	W	SW	0.46	11.7	Drizzling	
Roorkee	28.71	729.2	29.59	751.6	84.8	29.3	74	E	7.0	3.1	.....	.....	8	.....	.....	0	0	D. clouds	
Agra	29.03	737.4	29.59	751.5	84.7	29.3	79	SE	.....	.....	.....	.....	6	.....	SE	0	0	.....	
Nagpur	28.61	726.8	29.64	752.9	83.4	28.6	72	SSW	5.0	2.2	.....	.....	6	.....	S	0	0	D. clouds	
Lucknow	29.23	742.4	29.60	751.9	84.3	29.1	53	Calm	2.4	1.1	.....	.....	10	.....	.....	0.25	6.4	Overcast	
Allahabad	29.34	745.1	29.64	752.9	83.5	28.5	58	Calm	1.8	0.8	.....	.....	9	.....	.....	0.04	1.0	D. cloud	
Patna	29.48	748.8	29.66	753.3	83.3	28.5	85	ENE	1.0	0.4	.....	.....	8	ENE	ENE	0.02	0.5	D. clouds	
Hazaribagh	27.66	702.6	29.67	753.5	77.8	25.4	89	SE	8.4	3.8	.....	.....	10	.....	.....	0.01	0.3	Thunder-storm	
Cuttack	29.62	752.4	29.70	754.4	82.8	28.2	83	SSW	2.0	0.9	.....	.....	7	.....	.....	0.97	24.6	D. clouds	
Calcutta (Alipore)	29.69	754.2	29.71	754.7	82.7	28.2	81	S	7.0	3.1	.....	.....	7	S	.....	0	0	D. clouds	
Goalpara	29.33	744.9	29.72	754.8	77.9	25.5	94	Calm	1.7	0.8	.....	.....	8	.....	.....	2.51	63.8	D. clouds	
Chittagong	29.70	754.3	29.79	756.6	81.8	27.7	87	S	5.2	2.3	.....	.....	4	.....	.....	0	0	Misty	
Sibsagar	29.37	745.9	29.70	754.4	81.3	27.4	90	SW	3.8	1.7	.....	.....	10	.....	.....	0.54	13.7	D. clouds	
Jubbulpore	28.29	718.6	29.65	753.1	78.8	26.0	87	S	2.6	1.2	.....	.....	10	.....	S	0.04	1.0	Overcast	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'r 0—10.	Low't 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.48	748.7	29.87	758.7	78.8	26.0	52	SE	0.7	0.3	.....	.....	9	.....	.....	0.130	3.3	.....	Prof. Giovanni Clodig.
Milan	29.34	745.2	29.83	757.7	81.9	27.7	55	ESE	.....	.....	2	.....	8	SSW	.....	0.157	4.0	.....	Prof. Schiaparelli.
Padua	29.74	755.3	29.84	758.0	79.3	26.3	56	SE	0.7	0.3	.....	.....	4	SW	.....	1.197	30.4	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.95	735.2	29.81	757.2	78.8	26.0	55	WSW	2.5	1.1	.....	.....	5	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.68	753.9	29.86	758.5	77.0	25.0	78	SE	13.0	5.8	.....	.....	6	SW	.....	0.087	2.2	.....	Prof. G. M. Garibaldi.
Mondovi	27.97	710.4	29.80	756.9	73.0	22.8	66	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.4	29.87	758.6	69.8	21.0	63	SE	7.4	3.3	.....	.....	8	SW	.....	0.811	20.6	.....	Prof. Luigi Guidi.
Florence	29.63	752.5	29.87	758.7	85.1	29.5	59	S	.....	.....	2	.....	5	W	.....	0.071	1.8	.....	Cav. F. Meucci.
Leghorn	29.78	756.5	29.87	758.6	80.1	26.7	78	S	5.6	2.5	.....	.....	4	.....	.....	0.276	7.0	.....	Prof. P. Monte.
Rome	29.78	755.2	29.90	759.5	86.9	30.5	49	W	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.65	753.0	29.89	759.2	82.9	28.3	53	SSW	15.0	6.7	.....	.....	0	SSW	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	29.00	736.7	29.85	758.1	87.1	30.6	62	NW	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.5	29.93	760.2	84.9	29.4	56	S	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.5	29.91	759.7	81.1	27.3	59	ENE	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.80	757.0	29.88	758.9	86.2	30.1	58	S	7.4	3.3	.....	.....	6	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. P.	29.39	746.5	29.95	760.6	84.2	29.0	60	W	6.8	2.8	.....	.....	3	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.78	756.4	29.79	756.6	82.9	28.3	77	SW	6.7	3.0	.....	.....	0	.....	.....	0	0	Very clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.87	758.7	79.9	26.6	85	SSW	6.2	2.8	.....	.....	2s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.64	752.8	29.70	754.4	77.9	25.5	90	SSE	1.8	0.8	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.71	754.6	29.76	755.9	84.0	28.9	64	E	0.5	0.2	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.95	633.8	29.93	760.2	59.0	15.0	80	NE	.....	.....	2	.....	5	.....	NE	1.77	45.0	½ clouded	Prof. L. Perez.
Leon	24.35	618.4	29.87	761.2	62.2	16.8	93	E	.....	.....	1	1c	6k	SW	.....	1.45	36.8	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	24.02	584.6	29.96	761.0	56.8	13.8	90	Calm	0	0	.....	9k	0	N	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.8	16.0	91	NW	.....	.....	1	.....	10n	.....	.....	0.08	2.1	Raining	M. V. de Leon, M. E.
Tlacotalpam	29.85	758.2	29.86	758.5	78.8	26.0	87	SW	.....	.....	2	3	7	E	SE	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.15	613.3	30.10	764.6	57.6	14.2	70	SE	.....	.....	3	5	0	E	.....	0.10	2.6	½ clouded	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.56	572.9	30.11	764.7	56.5	13.6	93	E	.....	.....	3	.....	10n	.....	E	2.17	55.0	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.37	593.6	30.04	763.0	58.1	14.5	82	SE	0.2	0 1	.....	.....	9ck	.....	NE	1.32	33.4	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.50	749.4	29.79	756.6	77.0	25.0	83	NE	.....	.....	2	1cs	8n	Calm	NE	0.05	1.2	Misty	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.63	752.7	29.63	752.7	63.7	17.6	.....	SW	.....	.....	6	.....	.....	.....	.....	0.610	15.5	.....	
Groningen	29.62	752.4	29.68	753.8	.....	.....	.....	S	.....	.....	2	.....	.....	.....	.....	0.059	1.5	.....	
Helder	29.54	750.3	29.54	750.3	59.7	15.4	.....	SSE	.....	.....	4	.....	.....	.....	.....	0.618	15.7	.....	
Hellevoetsluis	29.60	751.7	29.60	751.7	58.1	14.5	88	SW	.....	.....	6	.....	.....	.....	.....	0.276	7.0	.....	
Utrecht	29.61	752.2	29.66	753.4	61.7	16.5	70	SSW	.....	.....	6	.....	8	.....	.....	0.079	2.0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.72	755.0	29.78	756.4	73.6	23.2	43	E	10.3	4.6	.....	.....	1	.....	.....	0	0	.....	
Brönö	29 90	759.4	29.94	760.4	75.2	24.0	42	SSW	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.78	756.4	29.92	759.9	69.6	20.9	49	E	11	5	.....	.....	6	.....	.....	0	0	.....	
Tromsö	29.93	760.1	29.97	761.2	65.1	18.4	52	NE	4	2	.....	.....	2	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.06	763.4	30.24	768.1	73.6	23.2	77	W	6.9	3.1	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.91	734.4	29.89	759.1	84.9	29.4	21	NW	3.8	1.7	.....	.....	9	NNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.03	762.8	30.12	765.0	74.7	23.7	56	SW	4.9	2.2	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.62	752.4	29.98	761.4	72.3	22.4	41	NNW	23.7	10.6	.....	.....	8	WSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.21	767.4	30.30	769.6	79.2	26.2	52	SW	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0—9	Sea or swell: Direction from—																
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt / J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.5	67.1	19.5	.....	NW	.....	.....	2	.....	0	.....	.....	1	NW	Blue sky.....	H. de C. C. e Athayde. / J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	29.98	761.4	79.5	26.4	.....	SW	.....	.....	3	.....	6	.....	SW	3	SW	D. clouds.....	A. A. A. Loureiro. / F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.98	761.4	84.9	29.4	.....	SW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.42	747.3	29.83	757.7	68.5	20.3	53	S	2	1	.....	.....	4ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.43	747.5	29.84	757.8	62.5	17.1	54	N	4	2	.....	.....	8	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.67	753.7	29.91	759.7	58.6	14.8	51	ENE	9	4	.....	.....	8k	.....	.....	.....	.....	.....	Prof. Dr. Weilhrauch.
St. Petersburg	29.56	758.5	29.88	758.9	56.1	14.5	59	NNE	9	4	.....	.....	8ks;n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.16	740.6	29.77	756.2	67.3	19.6	52	NW	4	2	.....	.....	4k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.57	758.8	29.95	760 6	71.8	22.1	79	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.97	761.1	29.98	761.6	66.4	19.1	77	W	2	1	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.13	739.9	29.67	753.6	55.4	13.0	75	S	10.1	4.5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.67	753.3	29.86	758.4	66.0	18.9	47	WSW	13	6	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.92	759.9	29.94	760.4	63.9	17.7	62	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.48	723.3	29.81	757.2	82.2	27.9	35	N	4	2	.....	.....	7cs	.....	.....	.....	.....	Heavy clouds...	Physical Observatory.
Astrakhan	29.96	760.9	29.87	758.8	79.7	26.5	39	W	11	5	.....	.....	7k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.19	741.3	29.63	752.7	65.1	18.4	62	NW	11	5	.....	.....	6kn	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.22	742.3	29.48	748.9	62.2	16.8	82	WSW	9	4	.....	.....	6kn	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.64	727.6	29.58	751.3	57.6	14.2	93	W	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.40	746.8	29.62	752.3	90.5	32.5	48	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.14	714.8	29.59	751.6	89.1	31.7	74	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.45	747.9	29.93	760.1	67.5	19.7	47	NW	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.69	754.0	29.97	761.1	57.2	14.0	90	WSW	4	2	.....	.....	10	.....	.....	.....	.....	Thunder-storm..	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.49	749.0	29.63	752.6	81.0	27.2	85	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory. / Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thunder-storm.	
Vladivostock	29.59	751.5	29.69	754.0	67.3	19.6	90	NW	10.1	4.5	.....	.....	5n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.8	72.3	22.4	68	SSW	2.1	0.94	.....	.....	9	.....	.....	2.908	73.86	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.06	763.5	30.11	764.9	74.5	23.6	53	NW	2.0	0.91	.....	2	3	SE	.....	0.114	2.9	Cloudy.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.12	688.9	.....	.....	65.3	18.5	52	NE	9.7	4.35	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.73	704.4	29.82	757.3	88.3	31.3	34	S	2.2	1.00	.....	2	1	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	87.8	31.0	53	ESE	5.5	2.44	.....	0	3	.....	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.9	30.05	763.2	68.0	20.0	56	NE	13.7	6.1	.....	0	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.81	757.1	29.87	758.8	80.1	26.7	86	ESE	2.2	1.0	.....	1c	0	SSW	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.85	758.1	29.90	759.4	82.4	28.0	83	NE	0	0	.....	.....	8s	.....	E	0.484	12.3	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.81	757.1	29.90	759.5	79.5	26 4	68	WSW	7.7	3.4	.....	3	2	SW	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.82	757.4	29.91	759.7	83.5	28.6	74	NE	4.7	2.09	.....	5c	9k	NE	NE	0.089	17.50	Overcast.....	Leonardo de Tejada, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.		From—	From—	Inches.	Millimeters.		
Haparanda	30.07	763.8	30.11	764.8	64.4	18.0	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	30.03	762.8	30.08	764.1	65.6	18.6	41	E	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.00	761.9	30.05	763.2	68.7	20.4	74	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.80	756.9	29.98	761.4	65.2	19.0	43	ENE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	29.81	757.1	29.87	758.6	66.9	19.4	58	ESE	.....	.....	3	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.89	759.1	29.97	761.3	68.2	20.1	43	E	8.3	3.7	.....	.....	4	.....	E	0.002	0.06	....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	726.0	29.97	761.2	67.8	19.9	47	S	.....	.....	3	.....	2	.....	.....	0.894	22.7	Clear	The Observatory.
Zurich	28.38	720.8	29.98	761.6	63.0	17.2	64	W	.....	.....	1	.....	7	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, —1.9 Cent.; Relative Humidity, —8 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.7	79.2	26.2	43	NE	9	4.0	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.0	80.6	30.3	.....	S	.....	.....	1	.....	2	.....	....	0	0	Slightlycl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.69	754.1	29.80	756.9	68.0	31.6	54	WSW	.....	.....	1	.....	2s	.....	SW	0	0	D. clouds	Prof. C.V.A.Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.90	760.7	30.04	762.2	55	12.8	84	SW	3	1.3	.....	5cs	Haze	SW	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	56	13.3	90	W	2	0.9	.....	.....	10s	.....	.....	0.105	2.67	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.53	757.7	54.0	12.2	95	NE	.....	.....	2	.....	10s	.....	.....	0.715	18.16	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	53.6	11.9	83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.96	761.0	29.98	761.5	57	13.9	78	SW	6	2.7	.....	2c	0	W	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.96	761.0	30.02	762.6	55.4	13.0	92	E	1	0.4	.....	.....	10n	.....	.....	0.196	4.98	Misty	Prof. Harrison.
*Fort Garry, Manitoba	29.06	738.1	29.87	758.7	55	12.8	93	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.87	733.3	29.96	761.0	55	12.8	81	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.89	759.2	30.02	762.5	52	11.1	96	SE	3	1.3	.....	.....	.....	.....	.....	0.578	14.68	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.90	751.8	29.95	760.7	58.1	14.5	80	NE	.....	.....	2	8ck	0	NW	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.54	750.3	29.87	758.7	54	12.2	96	N	7	3.1	.....	.....	10n	.....	E	1.75	44.5	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.94	760.5	30.00	762.0	57.6	14.2	98	S	4	1.8	.....	.....	9s	.....	.....	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.72	754.9	29.92	760.0	54	12.2	93	E	8	3.6	.....	.....	10n	.....	.....	0.42	10.7	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	29.98	761.5	51	10.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.90	759.4	56.2	13.4	97	NW	.....	.....	4	0	Fog	.....	.....	0	0	Foggy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.94	760.5	55	12.8	87	N	5	2.2	.....	8k	0	NW	.....	0.12	3.0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.96	761.0	55	12.8	87	N	3	1.3	.....	.....	8ks	.....	NW	0.04	1.0	Cloudy	M. Payne.
*Quebec, Quebec	29.69	754.1	30.01	762.2	52	11.1	79	N	.....	.....	3	0	2s	.....	N	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.54	750.3	30.00	762.0	44	6.7	96	NW	6	2.7	.....	.....	Fog	.....	NW	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.93	760.2	29.98	761.5	52	11.1	93	E	.....	.....	1	.....	10n	.....	.....	0.51	13.0	Heavy rain	Dr. Gove.
St. John, N. B	29.83	757.7	29.90	761.7	51	10.6	100	NE	5	2.2	.....	.....	10n	.....	.....	0.70	17.8	Light rain	G. Murdock, C. E.
*Saugeen, Ontario	29.28	743.7	29.98	761.5	57	13.9	78	N	3	1.3	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.98	761.5	30.02	762.5	55	12.8	96	SW	2	0.9	.....	.....	10n	.....	.....	0.09	2.3	Cloudy	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.95	760.7	56	14.4	69	N	8	3.6	.....	.....	10ks	.....	N	0.38	9.7	Cloudy	Magnetic Observatory.
Windsor, N. S	29.94	760.5	29.97	761.2	53.0	11.7	93	E	1	0.4	.....	.....	10n	.....	.....	0.38	9.7	Raining	Prof. John E. Oram.
Woodstock, Ontario	28.90	734.0	29.95	760.7	56.7	13.7	76	N	1	0.4	.....	.....	10n	.....	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	30.00	762.0	61.0	16.1	85	SW	.....	.....	.....	3ck;cs	0	E	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10c	10s	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.65	753.1	29.87	758.7	60	15.6	91	S	2	0.9			10s		Calm	0.47	11.9	Cloudy	
Alpena, Michigan	29.36	745.7	30.00	762.0	53	11.7	73	NW	10	4.5		0	0			0	0	Clear	
Atcha, Aleutian Is, Alaska					47	8.3	100	Calm	0	0			10s		S	0	0	Cloudy	
Atlanta, Georgia	28.76	730.5	29.86	758.4	69	20.6	90	SW	3	1.3			10s		Calm	0.56	14.2	Cloudy	
Atlantic City, New Jersey	29.00	736.6	29.91	759.7	70	21.1	100	SW	12	5.4		0	8n		SW	1.32	33.5	Light rain	
Augusta, Georgia	29.76	755.9	29.95	760.7	76	24.4	82	SW	1	0.4		2k	2ks	SW	NW	0.13	0.8	Fair	
Baltimore, Maryland	29.84	757.9	29.88	759.2	71	21.7	90	S	6	2.7			10n		Calm	1.00	25.4	Light rain	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	72	22.2	95	S	12	5.4		5ck	8s	SW	SW	1.17	29.7	Cloudy	
Bismarck, Dakota	27.98	710.7	29.84	757.9	58	14.4	96	SE	9	4.0		0	0			0	0	Clear	
Boerne, Texas	28.51	724.1	29.78	756.4	68	20.0	79	Calm	0	0		0	0			0	0	Clear	
Boise City, Idaho	27.00	685.8	29.96	761.0	62	16.7	51	SE	3	1.3		5k	5s	W	Calm	0	0	Fair	
Boston, Massachusetts	29.81	757.2	29.96	761.0	55.5	13.1	97	NE	10	4.5			10s		NE	1.03	26.2	Cloudy	
Brackettville, Texas	28.79	731.3	29.79	756.7	70	21.1	95	E	4	1.8		0	0			0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.88	758.9	54	12.2	87	SE	12	5.4		5ck	0	Calm		0	0	Fair	
Brownsville, Texas	29.84	757.9	29.88	758.9	72	22.2	95	Calm	0	0		2k	0	Calm		0	0	Clear	
Buffalo, New York	29.22	742.2	29.90	759.4	53.5	11.9	93	N	4	1.8			10s		N	1.73	43.9	Cloudy	
Burkes, Arizona					76	24.4	49	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.60	751.8	29.89	759.2	55	12.8	87	SE	3	1.3			10n		SE	1.52	38.6	Light rain	
Cairo, Illinois	29.65	753.1	30.04	763.0	64	17.8	83	NW	5	2.2		0	5s		NW	0	0	Fair	
Campo, California	27.29	693.2	29.86	758.4	61	16.1	77	E	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.01	762.2	81	27.2	87	SE	12	5.4		Haze	Haze			0.48	12.2	Hazy	
Cape Henry, Virginia	29.91	759.7	29.93	760.2	81	27.2	78	S	17	7.6		2ck	2ks	SW	SW	0.37	9.4	Fair	
Cape Lookout, N. Carolina	29.87	761.2	29.98	761.5	81	27.2	81	SW	20	8.9		2k	Haze	Calm	Calm	0.10	2.5	Dense haze	
Cape May, New Jersey	29.89	759.2	29.92	760.0	72	22.2	85	S	8	3.6			10ks		SW	1.09	27.7	Cloudy	
Castroville, Texas	29.16	740.7	29.83	757.7	73	22.8	85	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	29.96	761 0	30.01	762.2	83	28.3	83	SW	4	1.8		2k	0	W		0.05	1.3	Fair	
Charlotte, North Carolina	29.09	738.9	29.96	761.4	73	22.8	90	S	10	4.5			10s		S	1.79	45.5	Cloudy	
Chattanooga, Tennessee	29.14	740.1	29.91	759.7	66	18.9	84	NW	5	2.2			10s		NW	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	24.00	609.6	29 91	760.5	53	11.7	54	W	4	1.8		5ck	Haze	NW		0	0	Fair	
Chicago, Illinois	29.32	744.7	30.00	762.0	55	12.8	68	N	4	1.8		2ck	0	S		0	0	Clear	
Cincinnati, Ohio	29.37	746.0	30.00	762.0	61	16.1	77	N	3	1.3		1k	Fog	NW	Calm	0	0	Clear	
Cleveland, Ohio	29.25	742.9	29.95	760.7	61	16.1	66	N	6	2.7		5k	2ks	N	N	0.43	10.9	Clearing	
Coleman City, Texas	28.18	715.8	29.78	756.4	69	20.6	56	E	8	3.6		5ck	0	E		0	0	Fair	
Columbus, Ohio	29.14	740.1	29.96	761.0	61	16.1	77	N	6	2.7		2c	0	Calm		0.01	0.3	Clear	
Concho, Texas	28.07	713.0	29.68	753.9	69	20.6	80	E	8	3.6		5k	0	Calm		0	0	Fair	
Corsicana, Texas	29.50	749.3	29.95	760.7	70	21.1	75	Calm	0	0		0	1ks		Calm	0	0	Clear	
Davenport, Iowa	29.42	747.3	30.05	763.3	53	11.7	80	Calm	0	0		0	0			0	0	Clear	
Deadwood, Dakota	25.27	641.8			57	13.9	58	Calm	0	0		2ck	0	Calm		0	0	Fair	
Decatur, Texas	28.84	732.5	29.97	761.2	71	21.7	62	NE	9	4.0		0	8s		Calm	0	0	Cloudy	
Denison, Texas	29.20	741.7	29.97	761.2	67	19.4	79	NE	1	0.4		2k	2ks	NW	Calm	0	0	Fair	
Denver, Colorado	24.74	628.4	29.96	761.0	57	13.9	52	S	7	3.1		0	0			0	0	Clear	
Des Moines, Iowa	29.15	740.4	30.03	762.7	50	10.0	79	Calm	0	0		5ck	0	NW		0	0	Fair	
Detroit, Michigan	29.31	744.5	29.98	761.5	53	11.7	80	N	5	2.2		1cs	0	Calm		0	0	Clear	
Dodge City, Kansas	27.43	696.7	29.66	753.4	60	15.6	77	S	12	5.4		5ck	0	W		0	0	Fair	
Dubuque, Iowa	29.35	745.5	30.05	763.3	49	9.4	85	Calm	0	0			Fog		Calm	0	0	Foggy	
Duluth, Minnesota	29.31	744.5	29.97	761.2	40	15.0	82	SW	4	1.8		0	0			0	0	Clear	
Eagle Pass, Texas	29.14	740.1	29.85	758.2	72	22.2	85	E	2	0.9		0	0			0.06	1.5	Clear	
Eastport, Maine	29.91	759.7	29.98	761.5	50	10.0	96	NE	12	5.4			10n		NE	0.28	7.1	Light rain	
Edinburg, Texas																			
El Paso, Texas	26.23	666.2			57	13.9	58	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.22	742.2	29.92	760.0	58	14.4	88	NE	2	0.9		0	8s		N	0.92	23.4	Cloudy	
Escanaba, Michigan	29.38	746.2	30.03	762.7	51	10.6	72	N	3	1.3		0	0			0	0	Clear	
Florence, Arizona	28.28	718.3	29.88	758.9	78	25.6	46	E	4	1.8		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.68	703 1	29.42	747.3	62	16.7	71	SE	8	3.6		8cs	0	SE		0.01	0.3	Cloudy	
Fort Custer	26.72	678.7						N			2	5k	0	N		0	0	Fair	
Fort Davis, Texas	25.22	640.6	30.18	766.6	60	15.6	65	W	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.47	748.5	29.99	761.7	68	20.0	70	Calm	0	0		0	0			0	0	Clear	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	70	21.1	32	N	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.97	761.2	71	21.7	90	NE	6	2.7			10s		Calm	0.25	6.3	Cloudy	
Fort Keogh, Montana	27.24	691.9			65	18.3	73	NW	1	0.4			10s		Calm	0.09	2.3	Cloudy	
Fort McKavett, Texas	27.72	704.1	29.57	751.1	67	19.4	74	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.79	731.3	29.86	758.4	68	20.0	74	Calm	0	0		10ck	0	NW		Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	27.94	709.7			55	12.8	80	E	8	3.6		5ck	0	W		0	0	Fair	
Fort Verde, Arizona					67	19.4	60	W			1	1ck	0	Calm		0.08	2.0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.08	713.2	29.53	750.0	80	26.7	62	S	1	0.4		2ck	0	Calm		0	0	Fair	
Galveston, Texas	29.92	760.0	29.96	761.0	76	24.4	91	N	9	4.0		2k	0	Calm		0	0	Clear	
Graham, Texas	28.94	735.1	29.97	761.2	66	18.9	95	NE	4	1.8			10n		Calm	0.53	13.5	Light rain	
Grand Haven, Michigan	29.35	745.5	30.00	762.0	55	12.8	74	Calm	0	0		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.04	737.6	29.95	760.7	66	18.9	84	SE	2	0.9		Haze	0	Calm		0	0	Hazy	
Indianapolis, Indiana	29.21	741.9	29.97	761.2	62	16.7	94	Calm	0	0			10s		Calm	0.13	3.3	Cloudy	
Indianola, Texas	29.93	760.2	29 95	761.0	78	25.6	86	NE	6	2.7		0	0			0	0	Clear	
Jacksboro, Texas	28.89	733.8	29.99	761.7	65	18.3	94	NW	9	4.0			10c		NW	0	0	Threatening	
Jacksonville, Florida	29.85	758.2	29.87	758.7	82	27.8	75	N	5	2.2		0	0			0.58	14.7	Clear	
Keokuk, Iowa	29.40	746.7	30.01	762.2	56	13.3	87	Calm	0	0			Fog		Calm	0	0	Foggy	
Key West, Florida	29.82	757.4	29.85	758.2	86	30.0	72	NW	5	2.2		2k	0	Calm		0.04	1.0	Fair	
Kittyhawk, North Carolina	29.91	759.7	29.93	760.2	81	27.2	87	SW	18	8.0		2k	Haze	SW	Calm	0.08	2.0	Fair	
Knoxville, Tennessee	28.91	735.1	29.91	759.7	65	18.3	87	N	4	1.8			10s		N	0.88	22.4	Threatening	
La Crosse, Wisconsin	29 28	743.7	30.02	762.5	50	10.0	86	SW	3	1.3			Fog		Calm	0	0	Foggy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	59	15.0	59	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.53	750 0	29.86	758.4	78	25.6	61	NE	2	0.9			10k		NE	0	0	Cloudy	
Leavenworth, Kansas	29.19	741.4	30.02	762.5	59	15.0	70	Calm	0	0			Fog			0	0	Dense fog	
Little Rock, Arkansas	29.70	754.4	30.06	763.5	65	18.3	84	NW	2	0.9		0	0			0	0	Clear	
Los Angeles, California	29.43	747.5	29.76	755.9	62.0	16.7	83	NE	2	0.9			10s		SE	0	0	Cloudy	
Louisville, Kentucky	29.44	747.5	29.93	761.5	61	16.1	82	SW	4	1.8		5k	0	Calm		Inap.	Inap.	Fair	
Lynchburg, Virginia	29.23	742.4	29.87	758.7	74	23.3	90	Calm	0	0			10s		SW	1.74	44.2	Cloudy	
Madison, Wisconsin	29.04	737.6	30.01	762.2	56	13.3	81	NW	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.31	744.5	30.00	762.0	58	14.4	64	Calm	0	0		0	0			0	0	Clear	
Mason, Texas	28.34	719.8	30.05	763 3	67	19.4	74	NW	1	0.4		2ck	0	NW		0	0	Fair	
Memphis, Tennessee	29.69	754.1	30.02	762.5	62	16.7	94	NW	5	2.2		0	2ks		NW	0	0	Fair	
Milwaukee, Wisconsin	29.28	743.7	30.01	762.2	53	11.	67	NW	9	4.0		1c	0	Calm		0	0	Clear	
Mobile, Alabama	29.88	758.9	29.92	760.0	70	21.1	92	N	10	4.5			10s		W	0.04	1.0	Cloudy	
Montgomery, Alabama	29.69	754.1	29.92	760.0	69	20.6	90	NW	5	2.2		9cs	0	W		Inap.	Inap.	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	28.96	735.6	29.92	760.0	61	16.1	88	N	4	1.8	.....	.....	10n	.....	N	0.17	4.3	Light rain...	
Mt. Washington, N. H.	23. 81	604.8	30.17	766.3	48	8.9	100	W	22	9.8	.....	.....	Fog	.....	W	2.37	60.2	Foggy.....	
Nashville, Tennessee	29.44	747.8	29.96	761.0	64	17.8	89	N	2	0.9	.....	.....	10ks	.....	NE	0.50	12.7	Cloudy.....	
New Haven, Connecticut	29.80	756.9	29.92	760.0	57	13.9	97	NE	14	6.3	.....	.....	10s	.....	Calm	0.67	17.0	Threatening	
New London, Connecticut	29.67	753.7	29.92	760.0	59	15.0	100	N	4	1.8	.....	.....	Fog	.....	.....	0.39	9.9	Dense fog...	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	77	25.0	69	N	8	3 6	.....	1c	0	Calm	.....	0	0	Clear	
Newport, Rhode Island	29.89	759.2	29.93	760.2	60.0	15.8	91	N	6	2.7	.....	.....	10s	.....	N	1.02	25.9	Cloudy.....	
New York, New York	29.74	755.4	29.91	759.7	63	20.0	94	E	4	1.8	.....	.....	10s;fg	.....	Calm	0.44	11.2	Foggy.....	
Norfolk, Virginia	29.88	758.9	29.94	760.5	81	27.2	83	SW	14	6.3	.....	1cc	2s	SW	SW	0.30	7.6	Fair	
North Platte, Nebraska	27.02	686.3	29.51	749.5	60	15.6	68	S	18	8.0	.....	5k	Haze	W	Calm	0	0	Fair	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	60.1	10.3	93	NE	1	0.4	.....	0	8mc;fg	.....	Calm;NE	0	0	Clear.....	
Omaha, Nebraska	28.87	733.3	29.94	760.5	62	16.7	77	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.53	750.0	29.84	757.9	57	13.9	100	N	3	1.3	.....	.....	Fog	.....	.....	2.84	72.1	Dense fog....	
Pembina, Dakota	28.99	736.3	29.80	756.9	54	12.1	93	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.84	757.9	29.89	759.2	71	21.7	95	S	9	4.0	.....	.....	10n	.....	S	0.90	22.9	Light rain....	
Phœnix, Arizona	28.85	732.9	30.27	768.8	82	27.8	36	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.96	456 2	30.17	766.3	36	2.2	45	NE	18	8.0	.....	0	0	.....	.....	0.04	1.0	Clear	
Pilot Point, Texas	29.16	740.7	29.94	760.5	77	25.0	69	NE	6	2.7	.....	0	9	.....	.....	0	0	Clear.....	
Ploche, Nevada	24.00	609.6	29.76	755.9	68.1	20.3	14	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.13	739.9	29.92	760.0	60	15.6	82	NW	4	1.8	.....	.....	10s	.....	N	0.08	2.0	Cloudy.....	
Port Huron, Michigan	29.30	744.2	29.96	761.0	55	12.8	81	NW	6	2.7	.....	0	8s	.....	NW	0.04	1.0	Fair.	
Portland, Maine	29.94	760.5	29.98	761.5	54	12.2	93	N	8	3.6	.....	.....	10s	.....	Calm	0.77	19.6	Cloudy.....	
Portland, Oregon	29.89	759.2	29 96	761.0	55.3	12 9	94	SE	2	0.9	.....	.....	Fog	.....	SE	0	0	Foggy	
Prescott, Arizona	24.72	627.9	30.08	764.0	60	15.6	71	Calm	.....	.....	0	0	0	.....	.....	0.24	6.1	Clear.	
Punta Rassa, Florida	29.81	757.2	29.83	757.7	80	26.7	82	N	8	3.6	.....	5c;cs	0	W	.....	0	0	Fair	
Red Bluff, California	29.36	745.7	29.70	754.4	74	23.3	40	NW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Rio Grande City, Texas	29.73	755.1	29.94	760.5	76	23.9	93	NE	2	0.9	.....	0	8s	.....	Calm	0	0	Fair	
Rochester, New York	29.29	744.0	29.89	759.2	55	12.8	93	NW	6	2.7	.....	.....	10s	.....	Calm	2.57	65.3	Cloudy	
Roseburg, Oregon	29.40	746.7	29.95	760.7	58.1	14.7	82	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sacramento, California	29.64	752.8	29.72	754.9	62	16.7	61	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.48	748.8	30.04	763.0	67	18.9	75	N	4	1.8	.....	1ck	0	Calm	.....	0	0	Clear.....	
St. Marks, Florida	29.88	758.9	29.90	759.4	76	24.4	91	SE	4	1.8	.....	1c;cs	0	Calm	.....	0.12	3.0	Clear	
St. Paul, Minnesota	29.15	740.4	29.97	761.2	52	11.1	86	E	3	1.3	.....	2c	Fog	NW	E	0	0	Clear.....	
Salt Lake City, Utah	25.45	646.4	29.78	756.4	72	22.2	30	E	4	1.8	.....	8k	0	W	.....	0	0	Cloudy.....	
San Antonio, Texas	29.26	742.9	29.81	757.2	73	22.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.72	754.9	29.79	756.7	67	19.4	89	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Clear	
Sandusky, Ohio	29.32	744.7	29.97	761.2	62	16.7	97	N	11	4.9	.....	1ck	0	Calm	.....	0.05	1.3	Cloudy	
Sandy Hook, New Jersey	29.87	758.7	29.90	759.4	72	22.2	90	SW	6	2.7	.....	.....	10ks	.....	SW	0.56	14.7	Clear	
San Francisco, California	29.72	754.9	29.78	756.4	55	12.8	93	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	56	13.3	51	NE	3	1.3	.....	0	0	.....	.....	0.03	0.8	Cloudy	
Savannah, Georgia	29.84	757.9	29.93	760.2	82	27.8	71	Calm	0	0	.....	2ck	0	SW	.....	0.04	1.0	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	71	21.7	80	SE	4	1.8	.....	8k	0	NW	.....	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.05	760.7	29.98	761.5	82	27.8	96	S	11	4.9	.....	0	8s	.....	S	0.09	2.3	Cloudy.....	
Socorro, New Mexico	25.40	645.2	29.46	748.3	59	15.0	70	Calm	0	0	.....	0	1s	.....	Calm	Inap	Inap.	Clear.....	
Springfield, Ill	29.38	746.2	30.05	763.3	57	13.9	78	N	3	1.3	.....	1c	0	Calm	.....	0	0	Clear.....	
Springfield, Massachusetts	29.81	757.2	29.94	760.5	56	13.3	94	N	5	2.2	.....	.....	10n	.....	NE	1.07	27.2	Light rain...	
Stockton, Texas	27.01	686.0	30.01	762.2	61	16.1	.....	Calm	0	0	.....	2k	0	E	.....	0	0	Fair.....	
Thatcher's Island, Mass	29.92	760.0	29.97	761.2	62	16.7	67	NE	20	8.9	.....	.....	10s	.....	NE	1.20	30.5	Cloudy	
Toledo, Ohio	29.31	744.5	29.98	761.5	53	11.7	80	NE	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Tucson, Arizona	27.38	695.4	29.93	760.2	80	26.7	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.54	750.3	30.02	762.5	62.0	16.7	67	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.02	737.1	29.80	756.9	78	22.8	90	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.74	755.4	30.00	762.0	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.22	615.2	29.70	754.4	63	17.2	33	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.32	745.0	29.69	754.1	65.1	18.4	47	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.77	756.1	29.88	758.9	71	21.7	95	S	5	2.2	.....	.....	10n	.....	SW	1.59	40.4	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light rain.	
Wilmington, N. Carolina	29.86	758.4	29.93	760.2	82	27.8	83	SE	7	3.1	.....	8k	0	S	.....	0.17	4.3	Fair.....	
Winnemucca, Nevada	25.54	648.7	29.90	759.4	63	16.7	41	SW	2	0.9	.....	4ck	Haze	Calm	Calm	0	0	Fair.....	
Wood's Holl, Mass	29.88	758.9	29.91	759.7	64	17.8	94	N	10	4.5	.....	.....	10ks	.....	NE	0.78	19.8	Cloudy	
Yankton, Dakota	28.65	728.5	29.94	760.5	63	17.2	67	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.51	749.5	29.67	753.6	79	26.1	54	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.83	757.7	29.88	758.9	83	28.3	79	Calm	0	0	.....	4c	0	Calm	.....	0	0	Foggy	J. B. Gordon.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.28	32.5	.....	Chas. Hasselbrans.
Medellin, Colombia, S. A.*	25.21	640.3	.....	.....	65.0	18.3	77	Calm	.....	.....	0	.....	10s;ks	.....	.....	0	0	.....	James Gall.
Navassa, W. I	29.82	757.4	29.90	759.4	80	26.7	.....	NE	.....	.....	.....	.....	.....	.....	.....	1.70	43.2	Cloudy.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	80	26.7	78	SE	.....	.....	2	5k	4s	E	.....	0.120	3.05	½ Cloudy....	F. M. Everett.
Santiago de Cuba, W. I	29.80	756.4	29.92	760.0	79	26.1	82	NNE	.....	.....	1	2c	2s	.....	NE	.....	.....	.....	C. J. Hering.
St. Thomas, W. I	29.49	749.0	29.50	749.3	79	26.1	86	NE	8	3.6	.....	.....	10n	.....	.....	0.11	2.8	Cloudy.....	Robert Mason.
York Factory, B. A	30.11	764.8	30.16	766.1	47.0	8.3	89	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Dendwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,623 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,192 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,821.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.23 in., or 132.8 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96,in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	76	24.4	86	WNW	15	6.7	.....	.....	10	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.70‡	754.4‡	.....	.....	79	26.1	91	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams. Mare I'd., Navy Yard, Cal.	29.80‡	756.9‡	.....	.....	65	12.8	87	SW	.....	.....	3–5	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Alaska, N. 28° 55′, W. 117° 24′	29.79‡	756.7‡	.....	.....	66	18.9	89	NW	.....	.....	4	.....	10	.....	.....	0	0	Smooth	SE	Hazy	
Alliance, N. 57° 49′, E 19° 42′	29.95‡	760.7‡	.....	.....	69	20.6	65	NNE	.....	.....	1	.....	4	.....	N;E	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.70‡	754.4‡	.....	.....	81	27.2	91	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Colorado, New York, N. Y.	29.88‡	758.9‡	.....	.....	69	20.6	95	Calm	0	0	.....	.....	10	.....	.....	0.65	16.5	.....	.....	Foggy	
Constellation, Newport, R. I.	29.91‡	759.7‡	.....	.....	60	15.6	98	NNE	.....	.....	2	.....	10	.....	.....	Continuous	Continuous	.....	.....	Drizzling	
Constitution, Navy Yard, Brooklyn, N.Y.	29.92‡	760.0‡	.....	.....	67	19.4	100	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Enterprise, Cowes, England	29.67‡	753.6‡	.....	.....	63	17.2	72	NNW	.....	.....	6	.....	9	.....	NNW	.....	.....	Rough	.....	Cloudy	
Essex, Rio de Janeiro, Brazil	30.34‡	770.6‡	.....	.....	68	20.0	90	NW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Franklin. Norfolk, Va.	29.94‡	760.5‡	.....	.....	80	26.7	87	SSW	15.6	7.0	.....	.....	8	.....	SSW	0.25	6.3	.....	.....	Fair	
Hartford Rio de Janeiro, Brazil	30.32‡	770.1‡	.....	.....	71	21.7	62	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd. Navy Yard, Cal.	29.91‡	759.7‡	.....	.....	59	15.0	94	SW	6.0	2.7	.....	.....	4?	.....	SW	.....	.....	.....	.....	Cloudy	
Kearsarge, N. 47° 05′, W. 60° 25′	29.98‡	761.5‡	.....	.....	59	15.0	88	WSW	.....	.....	4	.....	2	.....	WSW	.....	.....	Smooth	.....	Fair	
Lackawana, Apia, Samoa Is. †	29.89‡	759.2‡	.....	.....	75	23.9	81	ESE	.....	.....	1–2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Michigan, Chicago, Ill.	29.96‡	761.0‡	.....	.....	55	12.8	87	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	29.81‡	757.2‡	.....	.....	84	28.9	79	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Monongahela, N. 49° 08′, E. 143° 18′	29.70‡	754.4‡	.....	.....	76	24.4	77	NNE	.....	.....	3	.....	0	.....	.....	0	0	Very light	N;E	Foggy	
New Hampshire. Port Royal, S. C.	29.91‡	759.7‡	.....	.....	82	27.8	83	N	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Onward, Callao, Peru. †	29.99‡	761.7‡	.....	.....	62	16.7	88	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.82‡	757.4‡	.....	.....	82	27.8	91	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	29.91‡	759.7‡	.....	.....	72	22.2	90	S	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.00‡	762.0‡	.....	.....	61	16.1	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. Portland, Maine	30.00‡	762.0‡	.....	.....	55	12.8	87	N	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining	
Powhatan, N. 28° 30′, W 85° 42′	29.91‡	759.7‡	.....	.....	83	28.3	79	NW	.....	.....	1	.....	5	.....	Calm	0.03	0.8	Smooth	.....	Fair	
Quinnebaug, Trieste, Austria	29.85‡	758.2‡	.....	.....	72	22.2	80	SSE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Raining	
Ranger, Nagasaki, Japan §.	29.99‡	761.7‡	.....	.....	85	29.4	83	SW	.....	.....	1	.....	5?	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.71‡	754.6‡	.....	.....	82	27.8	91	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.88‡	758.9‡	.....	.....	73	22.6	100	NNW	.....	.....	1	.....	2	.....	Calm	0.15	3.8	.....	.....	Fair	
Santee, Annapolis, Md.	29.90‡	759.4‡	.....	.....	74	23.3	90	SW	.....	.....	1	.....	10	.....	W	1.02	25.9	.....	.....	Raining	
Saratoga, Newport, R. I.	29.89‡	759.2‡	.....	.....	61	16.1	94	NNE	.....	.....	3	.....	8	.....	N	Heavy	Heavy	.....	.....	Squally	
St. Louis, League Island, Pa	29.88‡	758.9‡	.....	.....	72	22.2	95	SW	12	5.4	.....	.....	10	.....	SW	1.2	30.	.....	.....	Raining	
Trenton, Gravesend, Eng.	29.61‡	759.5‡	.....	.....	58	14.4	88	WSW	.....	.....	4–5	.....	10	.....	N;W	0.01	0.3	Smooth	.....	Drizzling	
Tuscarora, Mare Isl. Navy Yard, Cal	29.80‡	756.9‡	.....	.....	55	12.8	93	SSW	.....	.....	5–6	.....	10	.....	Calm	0	0	Smooth	.....	Hazy	
Vandalia, N. 27° 20′, W. 84° 21′	29.85‡	758.2‡	.....	.....	85	29.4	72	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Wabash. Boston Mass.	29.93‡	760.2‡	.....	.....	56	13.3	94	N	7	3.1	.....	.....	10	.....	.....	0.78	19.8	.....	.....	Rainy	
Wachusett, N. 36° 15′, W. 74° 05′	30.02‡	762.5‡	.....	.....	80	26.7	87	SW	.....	.....	5	.....	2	.....	Calm	.....	.....	Mod'ate	SW	Fair	
Wyoming, Batoum, Black Sea	29.94‡	760.5‡	.....	.....	75	23.9	68	NW	.....	.....	1–2	.....	2	.....	NW	.....	.....	Long	NW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 11° 33′, W. 87° 27′	†.	29.92‡	760.0‡	80	26.7	91	SSE			3		9		S	0.25 in. or 6.3 mm	Mod'ate Con-fused.	SSW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S 33° 51′, E. 151° 29′		29.95‡	760.7‡				SW			3		1		SW				Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; P. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China	†.	29.92‡	760.0‡	85	29.4	83	W			2		4cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 46° 30′, E. 170° 45′		29.43‡	747.5‡	59	15.0	100	SSE			4		10		SW		3	W	Foggy	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 46° 40′, W. 12° 21′		29.89‡	759.2‡	66.0	18.9	74	NW			5		5		NW	0	Cross	WNW	Cloudy†	S. Risius, 3rd Officer.
S. S. Nürnberg																			
S. S. Ohio, N. 47° 56′, W. 29° 54′		29.78‡	756.4‡				NW			5		5		W		4	W	Cloudy†	Capt. A. Jaeger.
																			Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng.		29.65‡	753.9‡	68	20 0	84	SE			8		8		SE	Heavy			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 30° 56′, W. 26° 20′		30.19‡	766.8‡	77.5	25.3	71	E			4		9				4	ESE	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

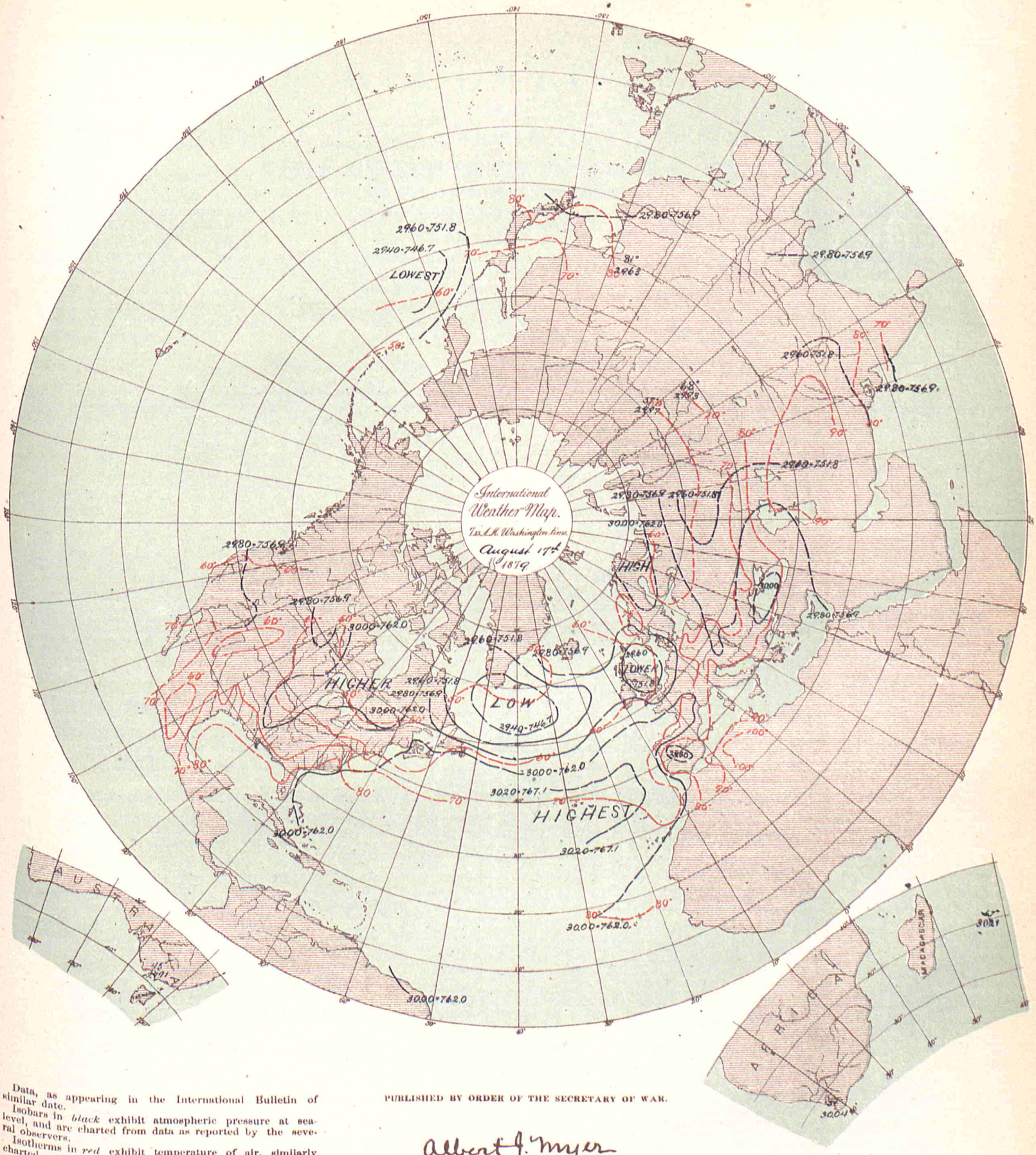
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, cirro, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'T,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 18, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.05	763.2	69.4	20.6	82	N	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.98	761.6	82.9	28.3	73	N	.....	.....	3	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.94	760.5	79.5	26.4	78	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilière.
La Calle	.....	.....	29.96	761.0	60.7	32.6	68	N	.....	.....	2	.....	2	.....	.....	0.067	1.7	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saïda	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.95	760.7	87.3	30.7	24	NNE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.00	762.1	91.4	33.0	34	W	.....	.....	4	.....	10	.....	.....	0	0	Covered	Brugnlaux.
Laghouat	.....	.....	.....	.....	75.4	24.1	47	SSE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.98	761.6	101.5	38.6	34	SW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	29.94	760.4	100.4	38.0	33	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saïda is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.28	743.8	29.81	757.2	72.1	22.3	65	SW	.....	.....	2	.....	4	.....	.....	0.354	9.0	.....	Prof. Ivan Stozir.
Orncow, I. R. Observatory	29.66	738.9	29.84	757.8	68.4	20.2	64	NW	2.9	1.3	.....	.....	10	.....	.....	0.122	3.1	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.92	734.5	29.76	755.9	70.5	21.4	67	Calm	.....	.....	0	.....	10s	.....	.....	0.278	7.05	.....	Julius Mikolik.
Gratz	28.65	727.7	29.86	758.5	67.6	19.8	72	SE	.....	.....	2	.....	10	.....	.....	3.544	90.0	.....	Andreas Rospini.
Hermannstadt	28.37	720.6	29.71	754.8	79.2	26.2	56	WNW	.....	.....	2	.....	10	.....	.....	2.156	54.6	Thunder-storm.	Prof. A. Gottschling.
Kremsmünster	28.54	724.8	29.84	757.9	64.4	18.0	84	ENE	.....	.....	1	.....	5	.....	.....	1.193	30.3	.....	Prof. C. Wagner.
Lemberg	28.82	732.1	29.77	756.1	69.3	20.7	72	S	.....	.....	1	.....	6	.....	.....	0.769	19.3	.....	Dr. T. Stanecki.
Pola	29.71	754.7	29.82	757.4	82.4	28.0	57	S	.....	.....	1	.....	3	.....	.....	0.098	2.5	.....	I. R. Hydrographic Office.
Szathmar	29.36	745.7	29.80	757.0	76.3	24.6	57	NW	.....	.....	4	.....	10	.....	.....	0.354	9.0	.....	Pet Pancsics.
Szegedin	29.52	749.9	29.79	756.7	77.0	25.0	72	S	.....	.....	1	.....	7	.....	.....	0.197	5.00	.....	Karl Stancel.
Trieste	29.73	755.1	29.83	757.7	77.4	25.2	66	S	.....	.....	1	.....	6	.....	.....	0.043	1.1	.....	P. Busin.
Vienna	29.19	741.3	29.93	760.1	62.4	16.9	73	NW	.....	.....	1	.....	8	.....	.....	1.248	31.7	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passan.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.66	753.4	29.76	755.9	57.0	13.9	.....	E	17	7.6	.....	.....	2	.....	.....	0.005	0.13	Blue sky	W. Boswell.
Ardrossan	29.64	752.5	29.65	753.1	63	17.2	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	Blue sky	Wm McNeil &G.Carrick
Armagh, Observatory	29.46	748.3	29.68	753.9	60.8	16.0	.....	NNE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.64	752.8	57.9	14.4	.....	W	20	8.9	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.59	751.6	58.8	14.9	.....	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.63	752.6	62.1	16.7	.....	NW	.....	.....	1	.....	8	.....	.....	0.37	9.4	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.88	758.9	29.91	759.7	83.5	28.6	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.55	750.6	29.64	752.8	65.0	18.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.63	752.6	65.0	18.3	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.55	750.6	29.68	753.9	62.1	16.7	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.64	752.8	29.68	753.9	58	14.4	.....	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	D clouds	J. Mac Gowan.
Dover	29.66	753.4	29.69	754.1	62	16.7	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.47	748.5	29.70	754.4	58.7	14.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.67	753.6	29.90	759.4	81	27.2	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.63	752.6	62	16.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.59	750.2	29.94	760.5	82.6	28.1	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.46	748.3	29.67	753.6	60.8	16.0	.....	E	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.63	752.6	29.63	752.6	63	17.2	.....	WNW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.51	749.5	29.68	753.9	61.5	16.4	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.49	749.0	29.70	754.4	59	15.0	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Dr. S.E.Hoskins,F.R.S.
Helston	29.69	754.1	29.81	757.2	65	18.3	.....	E	.....	.....	2	.....	4k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.67	753.6	29.68	753.9	58	14.4	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.47	748.5	29.76	755.9	57.9	14.4	.....	W	.....	.....	4	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	29.64	752.8	29.68	753.9	60.5	15.8	.....	WSW	9	4.0	.....	.....	9	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.37	746.0	29.62	752.3	62.1	16.7	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.89	759.2	29.96	761.0	82.0	27.8	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.91	760.5	85.8	29.9	.....	SE	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.44	747.8	29.63	752.6	66.5	19.2	.....	NNW	.....	.....	2	.....	7c;k	.....	NW	0.010	0.25	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.63	752.6	62.9	17.2	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.67	753.6	62	16.7	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.62	752.3	29.69	754.1	63.8	17.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.64	752.8	29.76	755.9	66	18.9	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.64	750.3	29.70	754.4	58	14.4	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.82	757.4	62	16 7	.....	E	22	9.8	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.74	755.4	29.80	756.9	84.6	29.2	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.59	751.6	29.62	752.3	63.0	17.2	74	E	.....	.....	4	.....	3	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.61	752.1	62.6	17.0	.....	SW	8	3.6	.....	.....	10	.....	.....	Blank	Blank	Misty	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	.....	.....	64.8	18.2	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.72	754.9	29.73	755.1	65	18.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.63	752.6	29.65	753.1	60.0	15.6	.....	SSE	25	11.2	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.18	766.6	30.22	767.6	61.1	16.2	.....	S	13.1	5.9	.....	2	6	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.71	754.6	58.1	14.6	.....	E	.....	.....	4	.....	4k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	30.04	763.0	30.23	767.9	72.6	22.6	62	SE	20.0	8.9	.....	0	3	.....	ESE	0.12	3.0	Squally	C. Melddrum.
Melbourne, Observatory	30.37	771.4	30.46	773 7	48.1	8.9	85	WSW	3	1.3	.....	.....	10	.....	.....	0.24	6.1	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.84	656.3	.....	.....	77.5	25.3	.....	NW	.....	.....	.....	0	2cs	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham, 8 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel Height scale 0—9	Sea or swel Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00'. E. 28° 00'	.....	.....	29.864	758.24	75.2	24.0	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. W. J. L. Wharton.
Algeria, N. 45° 45', W. 41° 30'	.....	.....	29.79	756.7	60	15.6	.....	WNW	.....	.....	5	.....	8	.....	.....	7	NNW	D. clouds	Capt. Wm. Watson.
German Brig "W. von Freeden" N. 45° 00', W. 39° 10'	.....	.....	29.78	756.4	64	17.8	.....	WNW	.....	.....	7	.....	8	NW	.....	6	NW	D. clouds	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Low'r. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
San José	26.24	666.5	29.96	761.0	64.4	18.0	95	NE			1	10s				0.3	8.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	756.0	29.81	757.2	64.2	17.9	73	SSE			4		2						
Fanöe	29.73	755.2	29.75	755.7	65.7	18.7	74	SW			4		8						
Godthaab (Greenland)	29.70	754.3	29.74	755.4	41.2	5.1	90	Calm			0		10						
Stykkisholm (Iceland)	29.62	752.3	29.66	753.4	58.6	14.8	74	SE			6		8						
Thorshavn (Faröe)	29.83	757.7	29.87	758.6	58.8	14.9	83	SE			2		10						
Vestervig	29.68	753.9	29.79	756.7	55.8	13.2	95	E			6		9					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.3	29.89	759.3	57.9	14.4	86	S			1		10			0.260	6.6	Raining	Collignon, Director.
Amiens, Normal School	29.71	754.6	29.81	757.2	63.0	17.2	88	WSW			3		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.51	749.6	29.76	756 0	62.6	17.0	61	W			3				NW	0.156	3.8		Klein, Commandant.
Avignon, Normal School	29 83	757.7	29.91	759.7	82.0	27.8	32	N			1		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.30	744.3	29.85	758.2	68.3	14.6	83	SW			1		10		SW	0.59	15.	Raining	O. Saillard, Director.
Beauvais, Normal School	29.55	750.6	29.81	757.2	64.2	17.9	62	W			2		10		W	0.413	10.5	Covered	Frere Eugene Marie.
Besançon, Normal School	29.10	739.1	29.68	761.5	59.4	15.2	85	SSW			5		8	W		0.571	14.5	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.68	738.6	30.01	762.2	68.4	20.2	62	W			1		10n	NW	NW	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.38	749.3	29.93	760.1	60.8	16	89	W			2		n	WSW	W	0.16	4.		M. Gence, Director.
Brest, Naval Observatory	29.46	748.2	29.70	754.4	66.2	19.0	90	SW			3		10		SW	0.512	13.00	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.59	751.5	29.99	761.7	78.4	25.8	42	W			1		2		WNW	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.64	752.9	29.71	754.7	61.5	16.4	79	SW			2		8		SW	0	0	Very cloudy	M. Bietrin, Director.
Chartres, Normal School	29.27	743.5	29.70	754.3	76.1	24.5	80	S			1		10		N	0	0	Covered	Vercier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.4	29.86	758.4	59.2	15.1	00	SSW			5		10					Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.60	726.4	29.91	759.8	68.9	20 5	60	W			1		5		W	0	0		Alluard, Director
Commercy, Normal School	29.00	736.5	29.81	757.1	60.1	15.6	79	W			3		5n	W	W	0.496	12.6	Cloudy	Dr. Couet, Director
Commune de Grenoble	28.85	732.9	30.00	761.9	78.1	25.8	31	NW			3		5		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.29	743.2	30.01	762.2	69.8	21.0	65	NW			1				NW	0	0		Ablard, Direct
La Roche-sur-Yon, N. School	29.72	754.9	29.93	760.3	62.4	16.9	88	SSW			3		5		SSW	0.386	9.8	Cloudy	Moquillot, Director.
Le Mans, Normal School	29.55	750.6	29.85	758.3	58.1	14.5	98	W			2		8		W	0.453	11.50	Very cloudy	Barrier, Directo
Lons-Le-Saulnier, N.School	29.08	738.6	29.97	761.3	65.1	18.4	78	SW			1		10	SW	SW			Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.69	754.0	29.79	756.6	62.2	16.8	98	SSW			3			W	SW	0.324	8.2		Lt. F. Carre, Director.
Lyons Obs'y (Park Station)	29.33	744.9	29.93	760.1	70.2	21.2	54	E			1		10		W	0	0	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.65	753.2	29.92	759.9	70.3	21.3	52	W			5		7		W	0	0		E. Stephan, Director
Mirecourt, Normal School	28 87	733.2	29.90	759 4	60.5	15.8	78	W			2		10n	W	W			Raining	Barbier, Director
Mont-Louis	24.93	633.3	30.25	768.3	67.6	19.8	47	SW	15.0	6.7						0	0		[illegible]
Nice	29.84	757.9	29.87	758.8	78.8	26.0	66	ESE			2		2	SE	ESE	0	0	Slightly cov	M. Boissier, Director.
Nismes, Normal School	29.75	755.6	29.90	759.5	91 0	32.8	52	NE			1		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y			29.58	751.2	59.5	15 3	77	WSW			3		10		WSW	0.240	6.1		Marie Davy Director
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.62	574.5			58.1	14.5		SSW			2		1		SSW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.86	758.5	29.97	761.1	74.5	23.6	43	S	7.4	3.3			3		NW	0	0		Dr. Flues.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.17	639 3			46.2	7.9	89	W			5		8			0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.91	759.6	29.94	760.4	68.7	20.4	68	SW			5		10	SW	SW	0.08	2.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.72	755.0	29.81	757.2	59.0	15.0	85	SW			1		10		SW	0 280	7.1	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.70	754.3	29.74	755.1	61.2	16.2	94	SSE			3		10	S	S	0.309	7.86	Rainy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.69	754.1	29.86	758.4	59.9	15.5	77	W			2		10		WSW	0.106	2.7		E. Renou, Director.
Tarbes, Normal School	29.17	740.8	30.21	767.2	76.3	24.6	61	W			1		0			0	0	Clear	T. Huguet, Director
Toulouse, Observatory	29.31	744.4	30.02	762 4	72.7	22.6	53	NNE			1		1			0	0		M. Juller Mercadier.
Tours	29.69	754.2	29.89	759.2	62.6	17.0	89	WSW			1		10		W	0.272	6.9	Rainy	Cousin-Marquet.
Versailles, Observatory	29.35	745.0	29.85	758.1	60.1	15.6	75	W			2					0.139	3.53		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S	29.24	742.5	29.94	759.9	73.4	23	63	NW			1		9		SE	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.72	755.0	29.75	755.7	79.5	26.4										0	0		L'Abbé Marchést.
Zi-Ka-Wei (near Shanghai)	29.80	756.9	29.82	757.5	81.0	27.2	84	SE	4.9	2.2			2			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grenoble and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:54 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Grenoble, 322 m, or 1,056 ft.. Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,556.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.. Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 6.815 inches has been added. [4] Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.1	29.86	758.4	65.2	18.4	72	SW	.....	.....	2	.....	7	SW	.....	0.028	0.7	Raining	Prof. Dr. Hoh.
Berlin	29.67	753.5	29.83	757.7	69.8	21.0	54	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.37	745.9	29.89	759.3	63.7	17.6	73	WSW	.....	.....	2	.....	10	.....	.....	0.087	0.95	Raining	Royal University Observ'y.
Carlsruhe	29.43	747.6	29.86	758.4	57.6	14.2	96	SW	.....	.....	2	.....	10	SW	.....	0.134	3.4	Raining	Albert Senz.
Cassel	29.19	741.3	29.79	756.6	65.1	18.4	64	SW	.....	.....	2	.....	5	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.58	751.2	29.74	755.3	65.8	18.2	59	SW	.....	.....	3	.....	8	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.72	754.9	65.1	18.4	61	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.44	747.8	29.80	757.0	62.6	17.0	.....	SW	.....	.....	1	.....	10	.....	.....	0.134	3.4	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.49	723.6	29.89	759.3	62.4	16.9	68	W	.....	.....	4	.....	10	W	.....	0.717	18.2	Raining	M. Wilhelm.
Hamburg	29.71	754.7	29.78	756.4	64.0	18.1	58	SSE	.....	.....	1	.....	9k	.....	.....	0.024	0.6	Cloudy	Captain F. Hegemann.
Kiel	29.76	755.8	29.77	756.2	65.1	18.4	68	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.84	757.9	29.92	760.0	67.1	19.5	52	E	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.79	756.7	68.2	20.1	.....	S	.....	.....	2	.....	4	.....	.....	0.622	15.8	.....	H. Müller.
Leipsic Observatory	29.41	747.1	29.82	757.5	67.3	19.6	58	S	.....	.....	2	.....	8	SSW	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.87	758.8	29.92	760.0	62.6	17.1	55	NW	.....	.....	3	.....	1s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.09	713.4	29.94	760.5	65.8	18.8	53	W	.....	.....	4	.....	10	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	29.87	758.6	29.86	759.0	65.6	18.6	66	NE	.....	.....	3	.....	9	.....	.....	0	0	.....	A. Lothes.
Posen	29.62	749.7	29.79	756.7	71.4	21.9	48	W	.....	.....	5	.....	10	.....	.....	0.008	0.2	.....	Dr. Magener.
Strassburg (in Alsace)	29.36	745.7	29.90	759.4	63.3	17.4	70	S	.....	.....	3	.....	10	W	.....	0.356	8.96	Raining	Imp. University Observatory.
Stuttgart	28.91	734.2	29.82	757.5	63.1	17.3	66	SW	.....	.....	1	.....	10	.....	.....	0.059	1.5	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.37	720.7	29.84	758.0	62.4	16.9	68	W	2	1	.....	.....	10	.....	W	0.008	0.2	Hazy	T. Hopfner.
Wustrow	29.77	756.1	29.80	756.8	67.5	19.7	66	E	.....	.....	2	.....	10ks	.....	.....	0	0	.....	E. Schultz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 [illegible] 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.50	749.2	29.87	758.7	57.8	31.0	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.8	29.57	751.1	84.5	29.2	68	WSW	18.0	8.0	.....	.....	3	NNW	.....	0.03	0.8	D. clouds	
Deesa	29.20	741.6	29.66	753.5	84.9	29.4	69	SSW	6.4	3.8	.....	.....	4	.....	SW	0	0	D. clouds	
Bombay	29.72	754.8	29.76	755.8	80.3	26.8	88	W	14.0	6.3	.....	.....	9	SE	W	1.24	31.5	D. clouds	
Poona	27.90	708.7	29.77	756.1	73.5	23.1	86	W	16.0	7.2	.....	.....	10	.....	W	0.02	0.5	Overcast	
Lahore	28.82	731.9	29.53	750.1	94.1	34.5	53	NE	3.8	1.7	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.28	692.9	29.85	758.2	68.6	20.3	96	W	12.0	5.4	.....	.....	10	.....	W	0.11	2.8	Drizzling	
Roorkee	28.71	729.3	29.60	751.8	83.8	28.8	51	SE	5.4	2.4	.....	.....	5	.....	.....	0	0	D. clouds	
Agra	29.05	737.9	29.61	752.0	83.7	28.7	83	E	.....	.....	.....	.....	10	.....	E	0	0	.....	
Nagpur	28.65	727.6	29.60	754.1	77.9	25.5	93	S	3.3	1.5	.....	.....	8	.....	NE	0.64	16.3	Gloomy	
Lucknow	29.26	743.2	29.63	752.6	87.2	30.7	84	ESE	2.5	1.1	.....	.....	6	SW	.....	0	0	D. clouds	
Allahabad	29.35	745.6	29.66	753.4	82.9	28.3	89	Calm	1.2	0.5	.....	.....	10	.....	.....	0.09	2.3	Overcast	
Patna	29.46	748.4	29.64	753.0	81.6	27.5	91	Calm	0.3	0.1	.....	.....	10	Calm	Calm	4.73	120.1	Drizzling	
Hazaribagh	27.69	703.3	29.70	754.4	76.3	24.6	89	E	7.7	3.4	.....	.....	10	.....	.....	0.28	7.1	Thunder-storm	
Cuttack	29.64	752.8	29.72	754.9	84.0	28.9	74	Calm	2.0	0.9	.....	.....	3	.....	.....	0	0	D. clouds	
Calcutta (Alipore)	29.73	755.2	29.76	755.8	82.9	28.3	80	SSW	5.0	2.2	.....	.....	8	S	.....	0	0	D. clouds	
Goalpara	29.32	744.8	29.71	754.7	76.2	24.6	93	Calm	0.9	0.4	.....	.....	7	.....	.....	2.49	63.2	Drizzling	
Chittagong	29.72	754.9	29.81	757.2	81.8	27.7	87	Calm	5.2	2.3	.....	.....	6	.....	.....	0	0	Misty	
Sibsagar	29.40	746.6	29.73	755.1	83.1	28.4	81	NW	5.1	2.3	.....	.....	8	W	W	0.48	12.2	D. clouds	
Jubbulpore	28.34	719.8	29.70	754.4	79.1	26.2	98	Calm	3.4	1.6	.....	.....	10	.....	S	0.36	9.1	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.42	747.3	29.82	757.3	77.4	25.2	52	S	1.8	0.8	.....	.....	7	.....	.....	1.106	28.1	.....	Prof. Giovanni Clodig
Milan	29.31	744.4	29.78	756.5	78.8	26.0	50	SW	.....	.....	2	.....	7	SW	.....	0.102	2.6	.....	Prof. Schiaparelli.
Padua	29.70	754.4	29.81	757.1	77.9	25.5	56	S	2.0	1.1	.....	.....	7	SW	.....	0.039	1.0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.97	735.7	29.83	757.7	76.6	24.8	53	WSW	1.8	0.8	.....	.....	5	W	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.66	753.4	29.85	758.1	78.9	26.1	61	SE	14.3	6.4	.....	.....	4	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.92	709.1	29.75	755.6	73.1	22.8	77	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.78	756.6	29.83	757.7	81.0	27.2	52	N	11.9	5.3	.....	.....	10	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.62	752.4	29.88	758.9	81.0	27.2	45	W	.....	.....	4	.....	8	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.50	749.2	29.88	759.0	77.2	25.1	58	W	16.8	7.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.75	755.6	29.92	759.9	82.8	28.2	50	SSW	15.0	6.7	.....	.....	7	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.66	753.3	29.90	759.5	101.5	38.6	54	S	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.66	738.0	29.89	759.3	90.7	32.6	59	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.74	755.5	29.93	760.2	84.6	29.2	50	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.69	754.1	29.94	760.4	81.1	27.3	63	ENE	6.2	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.86	758.4	29.93	760.3	87.6	30.9	54	SW	3.8	1.7	.....	.....	3	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.42	747.3	29.98	761.4	82.0	27.8	66	SW	1.3	0.6	.....	.....	4	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.83	758.2	78.5	25.8	85	NNE	5.2	2.3	.....	.....	0	.....	.....	0.218	5.53	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.99	759.4	80.8	27.1	88	SW	4.3	1.9	.....	.....	3s	.....	.....	0.030	0.76	Clear	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.70	754.4	29.77	756.1	76.2	24.6	85	SSW	4.0	1.8	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.75	755.8	29.80	756.9	82.5	28.1	76	NE	1.8	0.8	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	24.96	633.9	29.91	759.8	60.8	16.0	80	NE	.....	.....	2	.....	9	.....	E	0	0	Cloudy	P. Ceballos.
Guadalajara	24.34	618.2	29.97	761.1	62.1	16.7	92	SW	.....	.....	3	1c	2k	NE	.....	0.28	7.0	Clear	Prof. L. Perez.
Leon	23.08	586.1	30.06	763.5	55.4	13.0	90	Calm	0	0	.....	.....	10k	.....	NE	0.33	8.3	Covered	Prof. M. Leal.
Mexico, Central Obs'y	.....	.....	.....	.....	60.1	15.6	89	NW	.....	.....	2	.....	3ks	.....	NE	0.48	12.2	Clear	The Staff.
Pabellon (Aguascallentes)	29.87	758.7	29.88	759.0	78.8	26.0	87	SW	.....	.....	2	.....	10	.....	W	0	0	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.19	741.3	30.11	764.9	60.1	15.6	66	E	.....	.....	1	0	0	.....	.....	0.04	1.0	Very fine	Prof. M. M. Chazaro.
San Luis Potosi	24.19	614.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.55	572.8	30.15	765.7	54.7	12.6	93	NE	.....	.....	2	.....	9n	.....	E	0.20	5.0	Very cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.37	593.6	30.11	764.7	54.1	12.3	81	NE	0.2	0.1	.....	.....	9ck	.....	E	0.07	1.7	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.50	749.2	29.78	756.5	76.8	24.9	98	NE	.....	.....	1	8cs	0	S	.....	0.04	1.0	Dense fog	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.4 m., or 6,201.9 ft.; Zacatecas, 2,494 m., or 8,183 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.71	754.5	29.71	754.5	63.7	17.6	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.146	3.7	.....	
Groningen	29.66	753.4	29.72	754.8	.....	.....	.....	S	.....	.....	1	.....	.....	.....	.....	0.039	1.0	.....	
Helder	29.65	753.2	29.65	753.2	57.0	13.9	.....	S	.....	.....	4	.....	.....	.....	.....	0.575	14.6	.....	
Hellevoetsluis	29.67	753.6	29.67	753.6	59.0	15.0	86	S	.....	.....	4	.....	.....	.....	.....	0.118	3.0	.....	
Utrecht	29.67	753.6	29.72	754.8	59.9	15.5	83	SSW	.....	.....	2	.....	8	.....	.....	0.039	0.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.6	29.88	759 0	70.5	21.4	46	WSW	7.8	3.5	.....	.....	4	.. ..	.....	0	0	.....	
Brönö	29.89	759.3	29.93	760.3	68.7	20.4	53	N	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.79	756.7	29.93	760.3	68.5	20.3	54	ENE	4	2	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.84	758.0	29.89	759.1	70.2	21.2	48	SSW	7	3	.....	.....	3	.....	.....	0.016	0.4	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)...	29.97	761.2	30.15	765.9	77.5	25 3	84	W	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.09	736.6	29.97	761.1	87.4	30.8	24	NNE	1.8	0.8	.....	.....	2	NNE	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.8	30.16	766.0	74.9	23.5	63	SW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.04	763.1	78.4	25.9	30	N	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.13	765.3	30.22	767.5	77.7	25.4	63	SW	11.9	5.3	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.. ..	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. deMattos. Mossamedes, Lower Guinea	.....	.....	D. clouds.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	.....	D. clouds.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	Blue sky.....	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.42	747.2	29 83	757.6	71.4	21.9	50	SE	4	2	.....	.....	9ck	.....	.....	.....	.....	Solar corona	Astronomical Obs.
Wilna..	29.47	748.6	29.88	759.0	68.7	17.6	53	NW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.61	752.1	29.84	758.0	67.8	19.9	62	NE	9	4	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.80	756.8	29.81	757.2	66.6	19.2	58	NNE	13	6	.....	.....	1cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.17	741.0	29.78	756.5	67.8	19.9	62	Calm	0	0	.....	.....	7k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.80	757.0	29.87	758.8	74.7	23.7	66	S	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.96	760.9	29.98	761.4	71.1	21.7	65	W	4	2	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.19	741.4	29.74	755.3	52.7	11.5	87	W	4	2	.....	.....	7ks	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Lugan	29.64	752.9	29.84	758.0	72.9	22.7	41	WSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.94	760.4	29.96	760.9	59.9	15.5	61	NNE	9	4	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Saeliwerstow.
Tiflis	28.58	725.8	29.93	760.2	76.8	24.9	61	Calm	0	0	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.05	763.3	29.97	761.2	82 2	27.9	40	S	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.38	746.2	29.84	757.8	63.3	17.4	63	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.47	748 6	29.73	755.2	65.1	18.4	58	SW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.61	726.8	29.55	750.5	59.4	15.2	90	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.59	751.6	29.81	757.2	86.2	30.1	40	WNW	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.13	714.6	29.57	751.1	94.7	34.8	47	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.19	741.8	29.66	753.4	68.9	20.6	51	S	2	1	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.62	752.4	29.90	759.5	59.2	15.1	82	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.60	751.9	29.74	755.5	67.6	19.8	88	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.54	750.3	29.64	752.8	66.6	19.2	83	Calm	0	0	.....	.....	2s	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.5	29.97	761.1	77.4	25.2	72	S	2.7	1.17	.....	.....	6	.....	.....	0.240	0.61	½ covered...	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.97	761.1	30.02	762.5	81.7	27.6	44	N	2.4	1.05	.....	0	0	.....	.....	0	0	Clear.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.12	688 7	.....	.....	75.7	24.3	37	W	6.5	2.90	.....	0	0	.....	.....	0	0	Light clouds	DomingoMartin y Perez.
Madrid, Royal Observatory	27.80	706.0	29.87	758.6	91.9	33.3	28	SW	8.9	4.00	.....	4	0	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	761.0	88.3	31.3	53	E	6.3	2.37	.....	0	4	.....	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.01	762.3	74.1	23.4	67	SW	6.9	3.1	.....	0	7	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.84	758.0	29.91	759.6	81.3	27.4	87	Calm	0	0	.....	2c;ck	0	E	.....	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	758.9	29.93	760.2	82.1	27.8	88	E	1.6	0.7	.....	3c	3s	E	W	0.020	0.5	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.1	29 99	761.6	82.2	27.9	66	W	10.3	4.6	.....	0	1	.....	E	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.79	756.6	29.88	758.9	74.8	23.8	87	Calm	0	0	.....	5kn	8kn	Calm	Calm	0.906	23.00	Cloudy.....	Leonardo deTejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.00	761.9	30.04	762.9	64.4	18.0	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.99	761.7	30.04	763.0	68.7	20.4	54	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.97	761.1	30.02	762 4	72.0	22.2	66	NE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.79	756.6	29.97	761.1	66 2	19.0	51	NE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.84	757.9	29.90	759.4	65.8	18.8	49	ESE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.88	758.9	29.97	761.1	65.5	18.6	59	E	4.5	2.0	.....	.....	5	.....	ESE	0.016	0.39	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	725.0	29.94	760.4	65.7	18.7	62	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.32	719.3	29.94	760.4	59.7	15.4	75	W	.....	.....	2	.....	10	.....	.....	0.339	8.6	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.8 mm.; Thermometer, —2.9 Cent.; Relative Humidity, +7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	755.5	83.5	28.6	40	ESE	8	3.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	87.4	30.8	.....	S	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.69	754.1	29.80	757.0	87.1	30.6	56	W	.....	.....	1	.....	8s	.....	NW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.11	764.8	30.17	766.3	59	15.0	94	NE	1	0.4	.....	2cs	8ks	NE	NE	0	0	Cloudy	G. A. Eah
Charlottetown, P. E. Island	30.11	764.8	30.16	766.1	60	15.6	88	E	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.76	755.9	29.95	760.7	59.0	15.0	96	E	.....	.....	1	.....	10s	.....	.....	0.081	2.06	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.11	764.8	30.13	765.3	52	11.1	97	E	10	4.5	.....	.....	10n	.....	NW	0.03	0.8	Light rain	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.16	766.1	60.0	15.6	84	E	6	2.7	.....	.....	10s	.....	.....	0.590	14.99	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.89	733.8	29.69	754.1	63	17.2	86	S	10	4.5	.....	5k	5n	W	W	0.090	2.29	Threatening	James Stewart.
Granton, Ontario	28.98	736.1	30.07	763.8	54	12.2	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.04	763.0	30.17	766.3	58	14.4	94	Calm	0	0	.....	.....	10n	.....	SE	0.149	3.79	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.71	754.6	30.07	763.8	57.9	14.4	91	NW	.....	.....	1	7ck	0	N	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.67	753.6	30.00	762.0	57	13.9	95	E	2	0.9	.....	.....	10ks	.....	Calm	0.09	2.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	60.0	15.6	94	NW	6	2.7	.....	7k	0	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.86	758.9	29.99	761.7	58	14.4	99	Calm	0	0	.....	.....	Fog	.....	.....	0.11	2.8	Foggy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.86	745.7	30.04	763.0	60	15.6	88	SE	2	0.9	.....	2ck	0	N	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.01	762.2	62.5	16.9	77	W	.....	.....	4	8k	0	.....	.....	0.03	0.8	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.37	746.0	30.05	763.3	58	14.4	94	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	H. Mergan.
Port Hastings, N. S	30.12	765.0	30.16	766.1	57.6	14.2	.....	NE	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.05	763.3	51	10 6	99	NW	3	1.3	.....	0	Fog	.....	.....	0	0	Foggy	M. Payne.
*Quebec, Quebec	29.75	755.6	30.07	763.8	55	12.8	100	NE	.....	.....	6	.....	10n	.....	NE	0.12	3.0	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.59	751.6	30.04	763.0	58	14.4	88	Calm	0	0	.....	.....	8ks	.....	NE	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	56	13.3	98	SE	.....	.....	1	.....	Fog	.....	.....	0.38	9.7	Dense fog	Dr. Gove.
St. John, N. B	29.96	761 0	30.13	765.3	56	13.3	93	E	7	3.1	.....	.....	10ks	.....	.....	0.91	23.1	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.35	745.5	30.05	763.3	62	16.7	82	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.14	765.5	30.18	766.6	61	16.1	63	NE	3	1.3	.....	8k	.....	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.68	753.9	30.06	763 5	60	15.6	85	NW	3	1.3	.....	.....	8ks	.....	NE	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.10	764.5	30.12	765.0	58.6	14.7	94	N	1	0.4	.....	.....	10n	.....	.....	0.10	2.5	Raining	Prof. John E. Oram.
Woodstock, Ontario	29.90	759.6	30.04	763.0	58.2	14.6	88	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.88	758.9	30.13	765.3	58.0	14.4	64	W	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft. or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.79	756.7	30.02	762.5	59	15.0	97	NW	2	0.9	.....	.....	10n	.....	Calm	0.64	13.7	Light rain..	
Alpena, Michigan	29.42	747.3	30.06	763.5	57	13.9	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	46	7.8	100	SE	4	1.8	.....	.....	10n	.....	SE	0.11	2.8	Cloudy.....	
Atlanta, Georgia	28.74	730.0	29.86	758.4	62	16.7	94	NW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Atlantic City, New Jersey	29.94	760.5	29.95	760.7	69	20.1	100	NE	3	1.3	.....	.....	10 t	.....	Calm	1.35	34.3	Heavy rain..	
Augusta, Georgia	29.71	754.6	29.90	759.4	75	23.9	86	NW	1	0.4	.....	5k	2ks	NW	NW	0 84	21.3	Fair	
Baltimore, Maryland	29.81	756.7	29.96	761.0	66	18.9	89	N	6	2.7	.....	.....	10n	.....	Calm	1.84	46.7	Light rain...	
Barnegat, New Jersey	29.92	760 0	29.94	760.5	68	20.0	100	SE	1	0.4	.....	.....	10n	.....	S	0.71	18.0	Light rain...	
Bismarck, Dakota	28.02	711.7	29.88	758.9	54	12.2	87	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boerne, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boise City, Idaho	27.00	685.8	29.96	761.0	54	12.2	55	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Boston, Massachusetts	29.88	758 9	30.04	763.0	58	14.4	100	NE	5	2.2	.....	.....	10n	.....	Calm	0.21	5.3	Light rain...	
Brackettville, Texas	28.83	732.3	29.82	757.4	74	23.3	76	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Breckenridge, Minnesota	28.78	731.0	29.74	755.4	60	15.5	88	SE	12	5.4	.....	2cs	0	Calm	.....	0	0	Clear.....	
Brownsville, Texas	29.82	757.4	29.86	758.4	75	23.9	90	Calm	0	0	.....	2cs	0	Calm	.....	0.21	5.3	Clear	
Buffalo, New York	29.34	745.2	30.03	762.7	59	15.1	88	Calm	0	0	.....	5cs	Fog	N	Calm	Inap.	Inap	Fair.....	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	62	S	.....	.....	1	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Burlington, Vermont	29.70	754.4	29.98	761.5	58	14.4	94	E	4	1.8	.....	.....	10n	.....	SE	0.08	2.0	Light rain...	
Cairo, Illinois	29.70	754.4	30.09	764.3	65	18.3	68	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Campo, California	27.28	692.9	29.84	757.9	55	12.8	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	29.53	750.0	29.54	750.3	78	25.6	91	SE	60	26.8	.....	.....	10n	.....	SE	0.50	12.7	Light rain...	
Cape Henry, Virginia	29.71	754.6	29.73	755.1	69	20.6	95	N	40	17.9	.....	.....	10n	.....	N	1.05	26.7	Heavy rain..	
Cape Lookout, N. Carolina§	29.22	742.2	29.24	742.7	75	23.8	95	SW	165	73.8	.....	.....	10n	.....	Calm	3.35	85.1	Heavy rain..	
Cape May, New Jersey	29.89	759 2	29.92	760.0	70	21.1	95	N	10	4.5	.....	.....	10n	.....	Calm	1.69	42.9	Heavy rain..	
Castroville, Texas	29.18	741.1	29.86	758.4	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.82	757.4	29.87	758.7	76	24.4	86	W	8	3.6	.....	0	8s	.....	W	1.35	34.3	Cloudy.....	
Charlotte, North Carolina	29.00	736.6	29.77	756.1	71	21.7	85	N	8	3.6	.....	5ck	0	N	.....	0.85	21.6	Fair	
Chattanooga, Tennessee	29.16	740.7	29.94	760.5	67	19.4	74	N	6	2.7	.....	2k	0	NE	.....	0	0	Fair.....	
Cheyenne, Wyoming	24.00	609.6	29 94	760.5	58	14.4	53	N	12	5.4	.....	2k	0	W	.....	0	0	Clear.....	
Chicago, Illinois	29.38	746.2	30.05	763.3	61	16.1	77	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.42	747.3	30.06	763.5	62	16.7	74	NE	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.....	
Cleveland, Ohio	29.34	745.2	30.05	763.3	56	13.5	81	S	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.17	715.2	29.77	756.1	70	21.1	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Columbus, Ohio	29.20	741.7	30.02	762 5	59	15.0	82	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.....	
Concho, Texas	28.83	732.3	29.65	753.1	68	20.0	84	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.51	749 5	29.96	761.0	72	22.2	80	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Davenport, Iowa	29.41	747.0	30.04	763.0	58	14.4	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Deadwood, Dakota	25.30	642.6	.....	.....	54	12.2	80	N	1	0.4	.....	Haze	0	N	.....	0	0	Clear.....	
Decatur, Texas	28.83	732.3	29.95	760.7	75	23.9	77	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.18	741.1	29.95	760.7	67	19.4	84	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.70	627.4	29.92	760.0	58	14.4	53	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.11	739.4	29.97	761.2	57	13.9	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.34	745.2	30.05	763.3	57	13.9	75	N	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Dodge City, Kansas	27.26	692.4	29.45	748.0	64	17.8	78	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.36	745.7	30.06	763.5	53	11.7	67	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.28	743.7	29.94	760.5	60	15.6	82	N	4	1.8	.....	5k	6s	W	NW	0	0	Cloudy.....	
Eagle Pass, Texas	29.18	741.1	29.89	759 2	71	21.7	80	SE	2	0.9	.....	1c	0	Calm	.....	0	0	Clear.....	
Eastport, Maine	30.01	763.0	30.11	764.8	54	12.2	97	E	14	6.3	.....	.....	10n;fg	.....	E	0.28	7.1	Light rain..	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.19	665.2	.....	.....	58	14.4	58	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Erie, Pennsylvania	29.32	744.7	30.02	762.5	60	15.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Escanaba, Michigan	29.41	747.0	30.05	763.3	57	13.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Florence, Arizona	28.28	718.3	29.88	758.9	79	26.1	62	SW	2	0.9	.....	0	8s	.....	Calm	0.06	1.5	Fair.....	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.83	706.9	29.65	753.1	44	6.7	83	NW	3	1.3	.....	5cs	0	W	.....	0	0	Fair	
Fort Custer	26.68	677.7	.....	.....	.....	.....	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.22	640.6	30.18	766.6	64	17.8	58	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.14	747.8	29.96	761.0	70	21.1	66	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	70	21.1	40	N	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
Fort Griffin, Texas	28.72	729.5	29.95	760.7	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Keogh, Montana	27.27	692.6	.....	.....	57	13.9	62	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort McKavett, Texas	27.73	704.3	29.58	751.3	68	20.0	79	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.80	756.9	69	20.6	70	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.98	710.7	.....	.....	62	11.1	72	Calm	0	0	.....	2c	2s	Calm	Calm	0	0	Cloudy?.....	
Fort Verde, Arizona	.....	.....	.....	.....	72	22.2	54	NE	.....	.....	1	8ck	0	W	.....	Inap	Inap	Cloudy.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.59	751.6	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear.....	
Galveston, Texas	29.94	760.5	29.98	761.5	77	25.0	86	NE	.....	.....	.....	0	2ks	.....	E	0	0	Clear.....	
Graham, Texas	28.88	733.5	29.89	759.2	69	20.6	90	SE	1	0.4	.....	2k	0	N	.....	0.14	3.6	Fair	
Grand Haven, Michigan	29.41	747.0	30.06	763.5	54	12.2	87	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.95	736.1	29.89	759 2	67	19.4	84	SE	8	3.6	.....	0	2s	.....	Calm	0	0	Fair.....	
Indianapolis, Indiana	29.28	743.7	30.04	763.0	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Indianola, Texas	29.96	761.0	29.98	761.5	80	26.7	66	SE	9	4.0	.....	1k	0	SE	.....	0	0	Clear.....	
Jacksboro, Texas	28.83	732.3	29.91	759.7	71	21.7	83	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Jacksonville, Florida	29.88	758.9	29.91	759.7	81	27.2	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Keokuk, Iowa	29.40	746.7	30.00	762.0	61	16.1	69	S	3	1.3	.....	1cs	0	Calm	..	0	0	Clear.....	
Key West, Florida	29.87	758.7	29.91	759.7	85	29.4	76	S	2	0.9	.....	1k	0	Calm	.....	0	0	Clear	
Kittyhawk, North Carolina	29.44	747 8	29.47	748.5	76	24.4	100	SE	60	26.8	.....	.....	10n	.....	SE	1.89	48.0	Light rain...	
Knoxville, Tennessee	28.98	736.1	29.9	761.0	63	17.2	75	N	9	4.0	.....	0	2ks	.....	S	Inap.	Inap.	Fair	
La Crosse, Wisconsin	29.26	743.2	29.99	761.7	58	14.4	76	S	4	1.8	.....	2k	0	SW	.....	0	0	Clear.....	
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	56	13.3	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.51	749.5	29.84	757.9	79	26.1	62	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Leavenworth, Kansas	29.13	739.9	29.94	760.5	63	17.2	67	S	2	0.9	.....	5cs	Haze	.....	.....	0	0	Fair	
Little Rock, Arkansas	29.73	755 1	30.08	764.0	64	17.8	73	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Los Angeles, California	29.42	747.3	29.7	755 6	62.5	16.9	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.49	749.0	30.0	63.0	62	16.7	77	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Lynchburg, Virginia	29.20	741.7	29.8	58.2	69	20.6	84	N	3	1.3	.....	.....	10s	.....	N	1.26	32.0	Cloudy.....	
Madison, Wisconsin	29.06	738 1	30.0	62.7	56	13.3	75	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.32	744.7	30.0	762.0	62	16.7	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Mason, Texas	28.35	720.1	30.0	63.5	69	20.6	85	W	2	0.9	.....	0	0	.....	.....	0.62	15.7	Clear	
Memphis, Tennessee	29.72	754.9	30.0	763.3	64	17.8	78	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Milwaukee, Wisconsin	29.31	745.0	30.0	63 0	58	14.4	76	W	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Mobile, Alabama	29.95	760.7	29.9	61.7	67.6	19.7	92	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Montgomery, Alabama	29.74	755.4	29.97	761.2	68	20.0	84	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.03	737.3	30.00	762.0	60	15.6	82	N	2	0.9	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Mt. Washington, N. H.	28.91	307.3	30.27	768.8	51	10.6	100	SW	17	7.6	.....	.....	10n	.....	SW	0.06	1.5	Light rain.	
Nashville, Tennessee	29.49	749.0	30.01	762.2	64	17.8	78	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
New Haven, Connecticut	29.50	749.4	30.02	762.5	59	15.0	97	NE	8	3.6	.....	.....	10n;fg	.....	Calm	0.48	12.2	Heavy rain.	
New London, Connecticut	29.95	760.7	30.00	762.0	64	17.8	94	NE	4	1.8	.....	.....	10n	.....	Calm	0.44	11.2	Light rain.	
New Orleans, Louisiana	29.94	760.5	29.99	761.7	77	25.0	69	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.96	761.0	30.01	762.2	64	17.8	100	NE	11	4.9	.....	.....	10n	.....	S	0.67	14.5	Light rain.	
New York, New York	29.82	757.4	29.99	761.7	68	20.0	100	S	6	2.7	.....	.....	10n	.....	Calm	0.77	19.6	Light rain.	
Norfolk, Virginia	29.62	752.3	29.98	761.9	69	20.6	100	NE	20	8.9	.....	.....	10n	.....	NE	1.03	26.2	Heavy rain.	
North Platte, Nebraska	26.90	683.2	29.36	745.7	60	15.6	82	SE	9	4.0	.....	2k	0	W	.....	Inap	Inap.	Clear	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	49.6	9.8	93	NE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.77	730.7	29.83	757.7	60	15.6	88	SE	8	3.6	.....	.....	10n	.....	SE	0.23	5.8	Light rain.	
Oswego, New York	29.71	754.6	30.02	762.5	59	15.0	94	SW	3	1.3	.....	.....	10n	.....	SW	0.06	1.5	Light rain.	
Pembina, Dakota	28.83	732.3	29.62	752.3	62	16.7	80	SE	12	5.4	.....	.....	8ks	.....	W	0	0	Threatening	
Philadelphia, Pa	29.90	759.4	29.95	760.7	69	20.6	100	SE	4	1.8	.....	.....	10n	.....	S	2.62	66.5	Light rain.	
Phœnix, Arizona	28.58	725.9	30.27	768.8	80	26.7	59	Calm	0	0	.....	.....	10ks	.....	E	0	0	Cloudy	
Pike's Peak, Colorado	17.96	456.2	30.17	766.3	35	1.7	61	NW	24	10.7	.....	8cs	0	NW	.....	0.13	3.3	Fair	
Pilot Point, Texas	29.13	739.9	29.91	759.7	77	25.0	64	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.00	609.6	29.77	756.1	62	16.7	22	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	30.02	762.5	57	13.9	94	NW	3	1.3	.....	.....	Fog	.....	NW	0	0	Foggy	
Port Huron, Michigan	29.39	746.5	30.04	763.0	59	15.0	82	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.00	762.0	30.05	763.3	58	14.4	88	NE	8	3.6	.....	.....	10n	.....	Calm	0.48	12.2	Light rain.	
Portland, Oregon	29.78	756.1	29.81	757.2	67.0	19.4	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.70	627.4	30.06	763.5	64	17.8	58	E	.....	.....	1	.....	10ks	.....	S	Inap	Inap.	Cloudy	
Punta Rassa, Florida	29.89	759.2	29.91	759.7	82	27.8	75	SE	6	2.7	.....	2cs	2ks	SW	Calm	0.07	1.8	Fair	
Red Bluff, California	29.39	744.2	29.64	752.8	74	23.3	43	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	74	23.3	90	NE	2	0.9	.....	0	6s	.....	E	0	0	Fair	
Rochester, New York	29.42	747.3	30.03	762.7	59	15.0	88	W	5	2.2	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.26	743.2	29.82	757.4	53	11.7	80	Calm	0	0	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Sacramento, California	29.59	751.6	29.67	753.6	67	19.4	81	S	5	2.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.00	762.0	60	15.6	77	E	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
St. Marks, Florida	29.91	759.7	29.93	760.2	74	23.3	86	NW	3	1.3	.....	1cs	0	Calm	.....	0.10	2.5	Clear	
St. Paul, Minnesota	29.09	738.9	29.89	759.2	58	14.4	76	SE	4	1.8	.....	10cs	0	NW	.....	0	0	Cloudy	
Salt Lake City, Utah	29.49	648.4	29.82	757.4	69	20.6	39	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.28	743.7	29.84	757.9	73	22.8	95	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
San Diego, California	29.71	754.6	29.78	756.4	66	18.9	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.44	747.8	30.10	764.5	59	15.0	82	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.94	760.5	29.98	761.5	68	20.0	100	S	7	3.1	.....	.....	10n	.....	W	2.11	53.6	Heavy rain.	
San Francisco, California	29.67	753.6	29.74	755.4	55	12.8	87	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	56	13.3	51	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap	Clear	
Savannah, Georgia	29.81	757.2	29.90	759.4	77	25.0	86	W	5	2.2	.....	2ck	8s	W	W	1.08	27.0	Cloudy	
Shreveport, Louisiana	29.80	756.9	30.02	762.5	67	19.4	84	E	3	1.3	.....	8k	0	NW	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.67	753.6	29.71	754.6	72	22.2	90	W	18	8.0	.....	.....	10s	.....	W	2.42	61.5	Cloudy	
Socorro, New Mexico	25.36	644.1	29.42	747.3	62	16.7	46	S	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
Springfield, Ill	29.4	746.7	30.06	763.5	61	16.1	66	NE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Springfield, Massachusetts	29.91	759.7	30.04	763.0	58	14.4	94	NE	5	2.2	.....	.....	10n	.....	NE	0.40	10.2	Light rain.	
Stockton, Texas	27.00	685.8	30.00	762.0	60	15.6	.....	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.03	762.7	30.05	763.0	59	15.0	100	NE	10	4.5	.....	.....	10n	.....	NE	0.32	8.1	Light rain.	
Toledo, Ohio	29.37	746.0	30.05	763.3	56	13.3	75	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.40	696.0	29.94	760.5	78	25.6	69	S	3	1.3	.....	5k	0	S	.....	0.15	3.8	Fair	
Umatilla, Oregon	29.43	747.5	29.91	759.7	56.4	13.5	46	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.04	737.6	29.84	757.9	72	22.2	83	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Vicksburg, Mississippi	29.78	756.4	30.04	763.0	65	18.3	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.17	613.9	29.65	753.1	53	11.7	86	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.30	744.2	29.65	753.1	63	17.2	59	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.82	757.4	29.93	760.2	64	17.8	94	N	8	3.6	.....	.....	10n	.....	Calm	1.85	47.0	Heavy rain.	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.56	750.8	29.64	752.8	72	22.2	80	W	24	10.7	.....	.....	10s	.....	NW	4.69	119.1	Cloudy	
Winnemucca, Nevada	29.49	647.4	29.85	758.2	55	12.8	45	NE	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
Wood's Holl, Mass.	29.97	761.2	30.01	762.2	66	18.9	100	NE	4	1.8	.....	.....	10n	.....	NE	1.67	42.4	Heavy rain.	
Yankton, Dakota	28.57	725.7	29.80	756.9	66	18.9	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.64	760.3	29.69	754.1	83	28.3	56	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.87	758.7	29.92	760.0	84	28.9	75	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink
Medellin, Colombia, S. A.*	25.24	641.1	.....	.....	66.6	18.9	85	Calm	.....	.....	.....	0	.....	10n	.....	0.47	11.9	.....	James Gall.
Navassa, W. I.	29.80	756.9	29.88	758.9	81	27.2	.....	N	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A.	29.97	761.2	29.97	761.2	79	26.1	74	E	.....	.....	2	4c	5k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I.	29.90	759.4	29.93	760.2	80	26.7	78	NE	1.2	0.5	.....	8cs	2s	W	NE	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	29.45	748.0	29.46	748.3	80	26.7	87	NE	4	1.8	.....	.....	10n	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	29.93	760.2	29.98	761.5	54.0	12.2	84	E	12	5.4	.....	2c	4s	SE	E	0.58	14.7	Cloudy	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Dendwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,000 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm., Campo, 3.57 in., or 90.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm., Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known. §This wind velocity is very approximately correct; the anemometer cups blown away

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.40‡	772.1‡	.....	.....	74	23.3	77	NW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.75‡	755.6‡	.....	.....	78	25.6	86	SW	.....	.....	1	.....	2k	.....	SW	0.01	0.3	.....	.....	Fair.....	
Adams. Mare I'd, Navy Yard, Cal.	29.75‡	755.6‡	.....	.....	57	13.9	100	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Alaska, N. 27° 53′, W. 116° 10′	29.80‡	756.9‡	.....	.....	69	20.6	90	NNW	.....	.....	2	.....	10	.....	S	0	0	Mod'ate	N	Overcast.....	
Alliance, N. 55° 22′, E 14° 38′	29.85‡	758.2‡	.....	.....	62	16.7	83	S	.....	.....	3	.....	7	.....	N	.....	.....	.....	SE	Cloudy.....	
Ashuelot, Yokohama, Japan	29.75‡	756.4‡	.....	.....	80	26.7	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Colorado New York, N. Y.	29.93‡	760.2‡	.....	.....	68	20.0	95	Calm	0	0	.....	.....	10	.....	.....	1.29	32.8	.....	.....	Heavy rain.	
Constellation. Newport, R. I.	29.99‡	761.7‡	.....	.....	63.3	17.4	??	SE	.....	.....	2	.....	10	.....	S	Occasional.	Occasional.	.....	.....	Drizzling.....	
Constitution. Navy Yard, Brooklyn, N.Y.	29.98‡	761.5‡	.....	.....	69	20.6	100	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Rainy.....	
Enterprise, Cowes, England	29.73‡	755.1‡	.....	.....	66	18.9	79	WSW	.....	.....	4	.....	4	.....	W	.....	.....	Mod'ate	.....	Clear.....	
Essex, Rio de Janeiro, Brazil.	30.31‡	769.9‡	.....	.....	67	19.4	89	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Franklin. Norfolk, Va.	29.71‡	754.6‡	.....	.....	70	21.1	95	NNE	21.6	9.7	.....	.....	10	.....	.....	1.4	36.	.....	.....	Rainy.....	
Hartford Rio de Janeiro, Brazil	30.28‡	769.1‡	.....	.....	69	20.6	75	Var.	.....	.....	0–1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mare I'd. Navy Yard, Cal.	29.74‡	755.4‡	.....	.....	59	15.0	88	SSW	4.8	2.1	.....	.....	3	.....	SW	.....	.....	.....	.....	Clear.....	
Kearsarge, N. 46° 40′, W. 56° 40′	30.16‡	765.8‡	.....	.....	56	13.3	81	NE	.....	.....	3	.....	3	.....	NE	.....	.....	Smooth	.....	Clear.....	
Lackawana. Apia, Samoa Is.	29.89‡	759.2‡	.....	.....	75	23.9	77	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Michican, Chicago, Ill.	29.99‡	761.7‡	.....	.....	63	17.2	83	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	Hazy.....	
Monocacy. Shanghai, China	29.82‡	757.4‡	.....	.....	87	30.6	76	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Monongahela, N. 4° 36′, E. 144° 08′	29.75‡	755.6‡	.....	.....	74	23.3	72	SW	.....	.....	1	.....	n	.....	.....	0	0	Very light	SW	D. clouds.....	
New Hampshire. Port Royal, S. C.	29.77‡	756.1‡	.....	.....	77	25.0	91	WSW	14	6.3	.....	.....	2	.....	WSW	0	0	.....	.....	Clear.....	
Onward. Callao, Peru	30.01‡	762.2‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos Shanghai, China	29.82‡	757.4‡	.....	.....	82	27.8	96	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.	29.94‡	760.5‡	.....	.....	67	19.4	95	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 14° 10′, W. 76° 32′	29.98‡	761.5‡	.....	.....	61	16.1	94	SE	.....	.....	3	.....	10	.....	SE	.....	.....	Long	S	Cloudy.....	
Portsmouth. Portland, Maine	30.05‡	764.0‡	.....	.....	57	13.9	94	ENE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining.....	
Powhatan, N. 25° 42′, W 53° 47′	29.93‡	760.2‡	.....	.....	86	30.0	68	ESE	.....	.....	2	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Quinnebaug. Trieste, Austria	29.81‡	757.2‡	.....	.....	78	25.6	53	S	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Ranger, Nagasaki, Japan	§.	30.06‡	764.3‡	.....	.....	86	30.0	83	Calm	.....	.....	0	.....	2?	.....	Calm	.....	.....	Smooth	.....	Cloudy? .....
Richmond, Yokohama, Japan	29.78‡	756.4‡	.....	.....	61	27.2	83	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas	29.87‡	758.7‡	.....	.....	74	23.3	100	NNW	.....	.....	1	.....	8	.....	SE	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	29.96‡	761.0‡	.....	.....	68	20.0	95	NW	.....	.....	3	.....	10	.....	SW	2.02	51.3	.....	.....	Overcast.....	
Saratoga, Newport, R. I.	30.04‡	763.0‡	.....	.....	62	16.7	100	NE	.....	.....	2	.....	10	.....	NE	Light	Light	.....	.....	D. clouds.....	
St. Louis, League Island, Pa	29.95‡	761.5‡	.....	.....	70	21.1	95	Calm	0	0	.....	.....	10	.....	.....	4.6	127.	.....	.....	Raining.....	
Trenton, Gravesend, Eng.	29.66‡	753.4‡	.....	.....	61	16.1	71	SW	.....	.....	1–2	.....	8	.....	N;W	0.02	0.5	Smooth	.....	Misty.....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.76‡	755.9‡	.....	.....	58	14.4	88	SSW	.....	.....	4–5	.....	10	.....	Calm	0	0	Smooth	.....	Overcast.....	
Vandalia, N. 28° 43′, W. 85° 10′	29.93‡	760.2‡	.....	.....	81	27.2	78	N	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Wabash. Boston, Mass.	30.04‡	763.0‡	.....	.....	54	12.2	100	NE	5	2.2	.....	.....	10	.....	.....	0.23	5.8	.....	.....	Rainy.....	
Wachusett, N. 38° 20′, W. 74° 00′	29.91‡	759.7‡	.....	.....	78	25.6	91	ESE	.....	.....	3	.....	10	.....	SE	.....	.....	Mod'e	SE	Cloudy.....	
Wyoming. Soukgoum Kale, Black Sea.	29.91‡	759.7‡	.....	.....	76	24.4	60	W	.....	.....	3–5	.....	2	.....	W	.....	.....	Smooth	W	Fair.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima, N. 9° 33', W. 84° 54'†.		29.96‡	761.0‡	76	24.4	95	NE			2		10		NNW	2.06 in. or 52.3 mm	Mod'ate	WSW	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebure.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Cannon.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.32‡	770.1‡				SW			3		1		SW				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; F. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.92‡	760.0‡	86	30.0	79	W			3		6cs			Light			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 47° 30,' E. 178° 21'.		29.74‡	755.4‡	58	14.4	94	S			4		6		S		4	SW	D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 38', W. 17° 52'		29.84‡	757.9‡	66.0	18.9	68	WNW			4		5		WNW	0	Cross	NW	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 38', W. 23° 20'		29.78‡	756.4‡				SW			4		10		SW		4	WSW	Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Indiana, Liverpool, Eng.		29.62‡	752 3‡	69	20.6	85	WNW			3		5		W	Mod'te			Fair	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland	Capt. Sam'l Jackson.
S. S. Nederland	Capt. Randle.
S. S. Switzerland	Capt. Jackson.
S. S. Vaderland	Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian	Capt. W. Richardson.
S. S. Hibernian	J. Powell, 4th Officer.
S. S. Peruvian	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 29° 29′, W. 28° 40′		30.20‡	761.1‡	75.5	24.2	72	ESE			3		8				4	E	Gloomy	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Bockwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.08	764.1	70.7	21.5	85	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	29.99	761.7	81.5	27.5	73	N	.....	.....	2	.....	10	.....	.....	0	0	Covered	Kesxnche.
Algiers	.....	.....	29.95	760.6	77.7	25.4	73	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.02	762.5	88.0	31.1	67	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gan.
Saida	.....	.....	29.96	760.9	97.3	36.3	14	S	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.05	763.2	93.9	34.4	23	W	.....	.....	5	.....	2	.....	.....	0.028	0.7	Fair	Watrin.
Geriville	.....	.....	.....	.....	79.2	26.2	41	SSE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.02	762.6	101.8	38.8	11	SW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.97	761.3	104.0	40.0	23	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.39	746.4	29.91	759.6	71.2	21.8	63	SW	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.09	738.8	29.84	758.0	59.4	15.2	78	W	11.0	4.9	.....	.....	7	.....	.....	0.165	4.2	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.94	735.1	29.81	757.2	55.4	12.8	98	Calm	.....	.....	0	.....	10ks	.....	NE	0.315	8.00	.....	Julius Mikolik.
Gratz	28.71	729.3	29.03	760.2	66.9	19.4	72	NW	.....	.....	2	.....	6	.....	.....	0.630	16.0	.....	Andreas Rospini.
Hermannstadt	28.89	721.1	29.76	755.9	72.3	22.4	65	NW	.....	.....	2	.....	10	.....	.....	0.439	11.15	Raining	Prof. A. Gottschling.
Kremsmünster	28.62	727.0	29.91	759.4	61.9	16.6	83	WNW	.....	.....	2	.....	10	.....	.....	0.354	9.0	.....	Prof. C. Wagner.
Lemberg	28 77	730.7	29.73	755.1	62.1	16 7	88	NW	.....	.....	1	.....	10	.....	.....	0.543	13.8	.....	Dr. T. Staneckl.
Pola	29.80	756.9	29.91	759 6	80.4	27.0	45	WSW	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.41	747.1	29.87	758.6	63.8	17.4	87	SW	.....	.....	3	.....	10	.....	.....	0.449	11.4	.....	Pet Pancsics.
Szegedin	29.61	752 2	29.89	759.1	70 6	21.4	68	W	.....	.....	1	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.82	757.4	29.92	760.0	78.1	25.6	50	NE	.....	.....	1	.....	9	.....	.....	0	0	.....	P. Busin.
Vienna	29.21	741.9	29.93	760 2	67 8	19.9	54	W	.....	.....	4	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Observer.
Arlon	Prof. M. Passau.
Brussels	Royal Observatory.
Furnes	M. E. de Cae.
Maeseyck	M. Pierrot.
.....	.....
.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:6, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.72	754.9	29.82	757.4	57.7	14 3	.....	SSE	13	5.8	.....	.....	8	.....	.....	0.090	2.29	Overcast.....	W. Boswell.
Ardrossan	29.72	754 9	29.74	755.4	62	16.7	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds....	Wm McNeil &G.Carrick
Armagh, Observatory	29.49	749.0	29.71	754.6	62.7	17.1	.....	SW	4	1 8	.....	.....	7	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.74	755.4	64.1	17.8	.....	SE	6	2.7	.....	.....	9	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	.....	.....	29.73	755.1	62.8	17.1	.....	SE	6	2.7	.....	.....	7	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29 38	746.2	29.77	756.1	62.1	16 7	.....	NW	.....	.....	1	.....	10	.....	.....	0.03	0.8	Overcast....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29 95	760.7	83	28.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.71	754.6	29.80	756.9	65.0	18.3	.....	S	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast....	H. Todd.
Cardington	.....	.....	29.81	757.2	65.0	18.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.72	754.9	29.84	757.9	63.9	17.7	.....	S	.....	.....	2	.....	8	.....	.....	.....	.....	Drizzling....	J. Carmell, Sapper. R. E.
Donaghadee	29.64	752.8	29.68	753.9	68	14.4	.....	S	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.84	757.9	29.86	758.4	62	16.7	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	¾clouded....	J. Costello.
Falmouth, Observatory	29.59	751.6	29.82	757.4	59.4	15.2	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	82	27.8	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling	
Galway, Queen's College	.....	.....	29.66	753.4	61	16.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.97	761.2	84.2	28.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.54	750.3	29.74	755.4	57.9	14.4	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.83	757.7	29.83	757.7	63	17.2	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.66	753.4	29.83	757.7	63.1	17.3	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.88	758.9	60	15 6	.....	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.85	758.2	29.97	761.2	62	16.7	.....	S	.....	.....	2	.....	10	.....	.....	0.11	2.8	Light rain...	M. P. Moyle.
Holyhead	29.73	755.1	29.74	755.4	64	17.8	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.63	752.6	29.92	760.0	60.4	15.8	.....	WSW	.....	.....	3	.....	10	.....	.....	Blank	Blank	Overcast....	J. Fisher.
Kew, Observatory	29.80	756.9	29.83	757.7	63.0	17.2	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester, Museum	29.55	750.6	29 80	756.9	63.1	17.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29 94	760.5	86.6	30.3	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29 68	753.9	29.77	756 1	61	16.1	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.95	760.7	83.5	28.6	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	C. S. Duncombe.
Nottingham, Observatory	29.61	752.1	29 79	756.7	69.5	20.8	.....	ESE	.....	.....	3	.....	8k	.....	SE	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.76	759 4	61.0	16.1	.....	S	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast....	Rev. Stephen J.Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.83	757.7	60	15.6	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.76	755.9	29.83	757.7	60.5	15.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.68	753.9	29.79	756.7	61	16.1	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Wm. Kennedy.
Saint Ann's Head	29.59	751.6	29.75	755.6	68	14.4	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.84	757.9	59.2	15.1	.....	SE	24	10.7	.....	.....	1	.....	.....	.....	.....	D. clouds....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	87.0	30.6	.....	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	SE	.....	.....	2	.....	.....	.....	.....	0.24	6.1	D. clouds....	W. F. Cooper.
Silloth Rectory	29.74	755.4	29.77	756.1	62 2	16.8	82	Calm	.....	.....	0	.....	8	.....	.....	0.110	2.79	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.77	756.1	62.5	16.9	.....	SSE	8	3.6	.....	.....	7	.....	.....	Blank	Blank	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	62.5	16.9	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.82	757.4	29.82	757.4	60	15.6	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.66	753.4	29.69	754.1	63.9	17.7	.....	S	8	3.6	.....	.....	8	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.34	770.6	30.38	771.6	62.5	16.9	.....	SE	9.4	4.2	.....	1	4	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.79	756.7	60.9	16.1	.....	W	.....	.....	1	.....	10ks	.....	.....	0.10	2.5	Overcast....	Andrew Gibb.
Mauritius, Observatory	30.03	762.7	30.22	767.5	72.0	22.2	62	ESE	17.7	7.8	.....	1	4	.....	ESE	0.01	0.3	Squally.....	C. Meldrum.
Melbourne, Observatory	30.39	771.9	30.49	774.4	50.9	10.5	86	SSE	4	1.8	.....	.....	4	.....	.....	0.01	0.3	Fine.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.88	657.3	.....	.....	73.5	23.1	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
Algeria, N. 47° 55', W. 34° 20'	4	WNW	Showery.....	Capt. Wm. Watson.
German Brig "W. von Freeden" N. 45° 45', W. 34° 55'	5	NW	D. clouds....	Capt. H. v. Freeden.
Theophane				Capt. Greig.
S. S. Amanda				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
S. S. Royal Alexandra				W. P. Hughes.
Brig Alliance				Capt. W. Scott.
S. S. Iron Cross				Capt. W. Randall.
S. S. Nizam				Capt. Barlow.
Barque Fedalma				Capt. H. L. Fox.
British Peer				Capt. Raymond.
Astarte				Capt. Parson.
Agnes Wilson				Capt. H. W. Dyke.
Gordon Castle				
Barque Commewyne				Capt. A. Buchan.
Amosphere				
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.21	665.7	29.93	760.2	67.6	19.8	97	Calm	.....	.....	0	0s	1d	.....	.....	0.5	13.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.87	758.7	29.91	759.7	64.2	17.9	74	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Raining
Faröe	29.86	758.5	29.88	759.0	62.8	17.1	78	E	.....	.....	2	.....	9	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.58	751.3	29.62	752.4	41.4	5.2	95	S	.....	.....	6	.....	10	.....	.....	.....	.....	Raining
Stykkisholm (Iceland)	29.69	754.0	29.73	755.1	57.9	14.4	84	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.88	758.9	29.91	759.8	56.7	13.7	83	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....
Vestervig	29.81	757.1	29.92	759.9	63.1	17.3	69	NE	.....	.....	2	.....	4	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.42	747.2	29.97	761.2	70.5	21.4	72	WSW	.....	.....	1	.....	8k	.....	NW	0.339	8.6	Very cloudy	Odlignon, Director.
Amiens, Normal School	29.79	756.7	29.90	759.4	66.2	19	88	SW	.....	.....	1	.....	10	.....	.....	0.55	14.	Covered	Bonvallet, Director.
Arras, Engin'r School	29.64	752.8	29.89	759.1	65.8	18.8	81	WSW	.....	.....	1	.....	.....	.....	NW	0.059	1.5	.....	Klein, Commandant.
Avignon, Normal School	29.60	759.4	29.98	761.4	87.1	30.6	37	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Par-sur-Seine	29.42	747.2	29.95	760.8	70.5	21.4	65	WSW	.....	.....	1	.....	8kn	.....	W	0.248	6.3	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.65	753.0	29.91	759.6	68.5	20.3	82	W	.....	.....	1	.....	10	.....	W	0.295	0.75	Covered	Frere Eugene Marie.
Besançon, Normal Schoo	29.14	740.1	30.00	762.0	70.0	21.1	71	S	.....	.....	5	.....	5	S	.....	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.4	30.08	764.1	75.2	24	67	S	.....	.....	1	.....	5k	SW	SW	0.04	1.	Cloudy	Mariot, Director.
Bourges, Normal School	29.48	748.8	30.02	762.4	69.8	21	73	SW	.....	.....	3	.....	10ks	.....	SW	0.16	4.	Raining	M. Gence, Director.
Brest, Naval Observatory	29.60	751.7	29.84	757.9	63.7	17.6	74	SW	.....	.....	2	.....	8	.....	SW	0.345	8.75	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.69	754.2	30.00	762.2	86.4	30.2	42	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.80	756.9	29.87	758.7	67.3	19.6	80	SW	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	M. Bietrin, Director.
Chartres, Normal School	29.32	744.8	29.87	758.8	60.8	16	79	S	.....	.....	1	.....	10	.....	N	0.021	0.6	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.64	752.8	29.95	760.6	70.5	21.4	53	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.68	728.5	29 97	761.3	77.0	25.0	49	W	.....	.....	1	.....	5	.....	W	0	0	.....	Allnard, Director.
Commercy, Normal School	29.68	738.6	29.92	759.9	66.6	19.2	88	WSW	.....	.....	1	.....	5kn	WSW	WSW	0.16	4.	Cloudy	Dr. Coulet, Director.
Commune de Gréasque	28.92	734.5	30.06	763.5	82.0	27.8	40	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.37	745.9	30.11	764.7	74.1	23.4	73	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. School	29.83	757.7	30.04	763.0	69.4	20.8	67	SSW	.....	.....	3	.....	5	.....	SSW	0.118	3.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.65	753.0	29.95	760.6	67.8	19.6	74	SW	.....	.....	1	.....	8	.....	SW	0.35	9.	Very cloudy	Poirrier, Director.
Lous-Le-Saulnier, N. School	29.11	739.5	30.01	762.2	72.0	22.2	72	SW	.....	.....	3	.....	10n	SW	SW	0.31	8.	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.87	758.6	29.97	761.2	66.2	19.0	81	S	.....	.....	2	.....	.....	.....	S	0.528	13.40	.....	Lt. P. Carré, Director.
Lyons Obs'y (Park Station)	29.41	747.0	30.00	761.9	80.6	27.0	54	SE	.....	.....	1	.....	5	.....	W	0.008	0.2	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.7	754.4	29.97	761.1	78.3	25.7	52	W	.....	.....	3–5	.....	4	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.86	733.1	29.87	758.8	67.1	19.5	76	SW	.....	.....	1	.....	8ck	SW	SW	.....	.....	Very cloudy	Barbier, Director.
Mont-Louis	25.00	635.1	30.32	770.1	70.7	21.5	57	S	16.8	7.5	.....	.....	.....	.....	.....	0	0	.....	M. Cave
Nice	29.91	759.6	29.94	760.4	78.4	25.8	69	ESE	.....	.....	2	.....	.....	SE	ESE	0	0	Misty	M. Boissieré, Director.
Nismes, Normal School	29.80	756.9	29.97	761.2	92.5	33.6	56	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.66	753.3	67.1	19.5	85	SW	.....	.....	3	.....	9	.....	SW	0.079	2.00	.....	Marie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.73	577.4	.....	.....	57.9	14.4	.....	NW	.....	.....	1	.....	1	S	NW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.93	760.2	30.03	762.8	81.3	27.4	45	S	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.25	641.3	.....	.....	53.6	12.0	93	W	.....	.....	7	.....	5	.....	.....	0.11	3.0	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.99	761.7	30.02	762.4	73.4	23.0	73	SW	.....	.....	2	.....	10	SW	SW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.3	29.90	759.5	68.2	19.0	90	S	.....	.....	1	.....	10	.....	W	0.031	0.8	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.86	758.4	29.89	759.2	66.7	19.3	69	SW	.....	.....	2	.....	8	SW	SW	0.230	6.35	Very cloudy	Lt. Herconet, Director.
Saint Maur (near Paris)	29.77	756.2	29.94	760.5	66.9	19.4	89	WSW	.....	.....	3	.....	10	.....	WSW	0.039	1.0	.....	E. Renou, Director.
Tarbes, Normal School	29.63	752.4	30.07	763.8	77.0	25	68	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.37	746.0	30.10	764.4	79.2	26.2	57	E	.....	.....	1	.....	2	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.78	756.3	29.97	761.3	69.4	20.8	62	WSW	.....	.....	1	.....	8	W	W	0.110	2.8	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.45	748.1	29.95	760.6	68.0	20.0	78	SW	.....	.....	1	.....	.....	.....	.....	0.061	1.52	.....	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.31	744.5	29.99	761.7	80.6	27	53	SE	.....	.....	5	.....	5	.....	S	0	0	Cloudy	Nicot, Director
SUB-SKIRTS.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.70	754.4	29.72	755.0	82.8	28.2	79	S	3.1	1.4	.....	3ck	.....	SW	.....	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 d. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. [4] Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.1	29.94	760.5	67.1	19.5	62	Calm	.....	.....	0	.....	7	.....	.....	0.062	1.6	.....	Prof. Dr. Hoh.
Berlin	29.73	755.1	29.89	759.3	69.8	21.0	53	NW	.....	.....	1	.....	5	.....	.....	0.008	0.2	.....	Prof. Dr. Arndt.
Breslau	29.36	745.7	29.89	759.1	61.5	16.4	78	NW	.....	.....	2	.....	8	.....	.....	0.658	16.72	Raining	Royal University Observ'y.
Carlsruhe	29.50	749.4	29.93	760.1	59.7	15.4	98	E	.....	.....	0	.....	10	SE	.....	0.524	13.3	Raining	Albert Senz.
Cassel	29.38	746.2	29.98	761.6	65.8	18.8	58	SW	.....	.....	2	.....	5	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.72	754.8	29.88	758.9	69.4	20.8	63	S	.....	.....	1	.....	8k;ks	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.88	758.9	68.2	20.1	61	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.60	751.8	29.96	761.0	69.4	20.8	.....	SW	.....	.....	2	.....	10	.....	.....	0.622	15.8	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	29.56	725.4	29.95	760.8	67.6	19.8	79	S	.....	.....	1	.....	10	WSW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.82	757.6	29.89	759.2	65.8	18.8	62	WNW	.....	.....	4	.....	7k	.....	.....	0.201	5.1	Showery	Captain F. Hegemann.
Kiel	29.87	758.6	29.88	759.0	64.9	18.3	72	ESE	.....	.....	1	.....	9	.....	.....	0.044	1.12	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.3	29.86	758.4	65.8	18.8	73	NE	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.83	757.7	61.5	16.4	.....	N	.....	.....	2	.....	4	.....	.....	0.220	5.6	.....	H. Müller.
Leipsic Observatory	29.51	749.6	29.92	760.0	65.8	18.8	68	W	.....	.....	2	.....	9	WSW	.....	0.065	1.6	.....	Prof. Bruhns, Privy Counselor.
Memel	29.82	757.5	29.87	758.7	64.0	17.8	83	W	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining	Skalweit.
Munich (München)	28.17	715.6	30.04	762.9	68.8	14.0	99	SW	.....	.....	2	.....	10	SW	.....	0.150	3.8	Raining	Dr. C. Lang.
Neuhabrwasser	29.85	758.1	29.86	758.5	64.0	17.8	67	ENE	.....	.....	2	.....	9	.....	.....	0	0	.....	A. Lothes.
Posen	29.62	749.7	29.80	756.9	62.8	17.1	73	NW	.....	.....	4	.....	9	.....	.....	0.157	4.0	.....	Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	29.95	760.7	66.6	19.2	80	SSW	.....	.....	2	.....	10	WSW	.....	0.255	6.52	Raining	Imp. University Observatory.
Stuttgart	28.99	736.3	29.91	759.8	60.8	16.0	89	N	.....	.....	1	.....	10	.....	.....	0.614	15.6	Raining	Prof. L.r. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.47	723.1	29.95	760.7	60.6	15.9	81	S	1.1	0.5	.....	....	10	.....	W	0.866	22.0	.....	T. Hopfner.
Wustrow	29.85	758.3	29.88	759.0	62.8	17.1	79	N	.....	.....	3	.....	4s	.....	.....	0	0	.....	E. Schultz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:6, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.6	29.84	758.0	89.8	32.1	.....	SW	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.5	29.60	751.8	83.9	28.8	68	WSW	15.0	6.7	.....	.....	8	NW	WSW	0.27	6.9	D. clouds	
Dersa	29.18	741.1	29.65	753.0	83.0	28.3	74	WSW	9.9	4.4	.....	.....	7	.....	WSW	0.14	3.6	D. clouds	
Bombay	29.79	754.2	29.73	755.2	76.1	24.4	97	WSW	10.0	4.5	.....	.....	10	.....	SSW	0.70	17.8	Overcast	
Poona	27.88	708.2	29.75	755.7	72.7	22.6	85	W	17.0	7.6	.....	.....	9	.....	W	0.01	0.3	D. clouds	
Lahore	28.79	731.2	29.52	749.7	85.1	31.2	71	E	4.1	1.8	.....	.....	10	.....	.....	0	0	Overcast	
Belgaum	27.25	692.2	29.82	757.5	67.8	19.9	97	W	2.0	0.9	.....	.....	10	.....	W	0.41	10.4	Drizzling	
Roorkee	28.67	728.2	29.54	750.4	87.8	31.0	63	Calm	2.4	1.1	.....	.....	8	.....	.....	0	0	Gloomy	
Agra	29.04	737.5	29.60	751.7	81.7	27.6	93	W	.....	.....	.....	.....	5	.....	E	0	0	.....	
Nagpur	28.02	726.8	29.65	753.2	80.6	26.9	85	Calm	1.4	0.6	.....	.....	8	.....	SE	0.09	2.3	Gloomy	
Lucknow	29.27	743.4	29.64	752.9	84.3	29.1	75	ESE	2.0	0.9	.....	.....	10	.....	.....	0.07	1.8	Overcast	
Allahabad	29.34	745.1	29.65	753.0	80.6	27.0	91	Calm	0.9	0.4	.....	.....	9	.....	.....	0.02	0.5	D. clouds	
Patna	29.47	748.5	29.65	753.0	82.7	28.2	88	E	.....	.....	.....	.....	8	E	E	0.11	2.8	D. clouds	
Hazaribagh	27.68	703.1	29.70	754.3	74.3	23.5	92	NNE	8.2	3.7	.....	.....	10	.....	.....	1.50	38.1	Thunder-storm	
Cuttack	29.50	749.4	29.58	751.4	84.2	29.0	74	SSE	2.0	0.9	.....	.....	5	.....	.....	0.05	1.3	D. clouds	
Calcutta (Alipore)	29.68	754.0	29.71	754.5	83.7	28.7	81	SSW	2.0	0.9	.....	.....	5	.....	S	0	0	D. clouds	
Goalpara	29.31	744.6	29.70	754.4	79.0	26.1	92	Calm	1.0	0.4	.....	.....	8	.....	W	0.15	3.8	D. clouds	
Chittagong	29.69	754.2	29.78	756.4	81.6	27.6	87	SSE	4.9	2.2	.....	.....	6	.....	.....	0	0	Misty	
Sibsagar	29.4.	747.3	29.76	755.8	79.3	26.3	91	WSW	3.5	1.6	.....	.....	10	W	W	0.18	4.6	D. clouds	
Jubbulpore	28.30	718.8	29.66	753.4	75.6	25.6	86	S	2.8	1.2	.....	.....	10	.....	S	0.14	3.6	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Upper	Lower.	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	—10.	From—	From—	Inches.	Millimeters.		
Udine	29.52	749 9	29.92	759 9	77.5	25.3	42	E	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.5	29.89	759.1	80.6	27.0	40	SW	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.80	756.9	29.91	759.6	76.6	24.8	58	E	0.7	0.3	.....	.....	5	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.1	29.90	759.5	77.7	25.4	55	ESE	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.76	756.0	29.95	760.6	75.2	24.0	67	SW	3.8	1.7	.....	.....	4	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.03	712.0	29.86	758.5	75.6	24.2	60	NE	.....	.....	2	.....	5	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.86	758.4	29.91	759.6	78.1	25.6	56	NE	9.8	4.4	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.70	754.4	29.95	760.7	80.6	27.0	43	W	.....	.....	4	.....	5	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.8	29.96	760.9	77.4	25.2	54	WSW	9.8	4.4	.....	.....	9	W	.....	0	0	.....	Prof. P. Monte.
Rome	29.76	755.9	29.93	760.2	86.4	30.2	48	WNW	9.4	4.2	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.91	759.7	84.4	29.1	44	NE	7.4	3 3	.....	.....	4	W	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.69	738.9	29.93	760.2	88.	31.2	58	NW	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.53	757.6	30.01	762.3	88.0	31.1	33	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.71	754.7	29.96	761.0	84.0	28.9	52	N	14.8	6.4	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.2	29.92	760.0	91.4	33.0	36	NNE	4.9	2.2	.....	.....	0	SW?	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.98	761.6	82.4	28.0	54	SW	4.9	2.2	.....	.....	9	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.83	757 7	29.81	757.9	81.4	27.4	60	NNE	8 0	3.6	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.66	753.3	29.85	758 2	78.1	25.6	80	SW	1.4	0.6	.....	.....	0	.....	.....	0.005	0.13	Clear	S. Takehayashi.
Tokei. (Yedo) Observatory	29 84	757.9	29.90	759.4	78.5	25.8	64	S	5.9	2.3	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.78	756.4	29.83	757.7	79.0	26.1	60	ENE	2.5	1.1	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.00	634.9	29.97	761.2	59.9	15.5	83	NE	.....	.....	2	.....	3	.....	Calm	0.17	4.2	Foggy	Prof. L. Perez.
Leon	24.40	619.7	30.02	762.6	62.8	17.1	88	S	.....	.....	1	4c	1k	SE	.....	0.59	15.0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	585.2	30.00	762.0	56.1	13.4	88	Calm	0	0	.....	1c	4k	E	.....	0.22	5.6	.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.6	17.0	83	NW	.....	.....	1	.....	9kn	.....	NE	0.91	23.0	Very cloudy	M. V. de Leon, M. E.
Tlacotalpam	29.86	758.5	29.87	758.8	76.1	24.5	91	W	.....	.....	1	.....	10	.....	W	0.85	21.7	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.16	766.0	60.1	15.6	60	E	.....	.....	1	3	0	E	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.56	573.0	30.13	765.4	54.7	12.6	96	E	.....	.....	2	.....	10n	.....	E	Inap	Inap	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.38	593.6	30.11	764.9	51.8	11.0	86	NE	3.0	1 6	.....	.....	7ck	.....	NE	0.26	6.5	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.53	750.1	29.82	757.4	76.5	24.7	90	Calm	.....	.....	0	.....	10n	.....	SW	0.67	17.0	Rainy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,536.5 m., or 5,100.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,824.4 m.; or 6,318.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.2	29.89	759.2	72.0	22.2	.....	ESE	.....	.....	2	.....	.....	.....	.....	0.031	0.8	.....	
Groningen	29.85	758.1	29.90	759.5	64.9	18.3	.....	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.86	758.9	29.88	759.0	63.0	17.2	.....	SW	.....	.....	2	.....	.....	.....	.....	0.067	1.7	.....	
Hellevoetsluis	29.84	758.4	29.89	759.1	71.1	21.7	73	SSW	.....	.....	2	.....	.....	.....	.....	0.102	2.6	.....	
Utrecht	29.85	758.3	29.90	759.5	68.0	20.0	71	SSW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29 90	759.4	29.95	760.8	68.0	20.0	47	WNW	7.8	3.5	.....	.. ....	1	.....	.....	0	0	.....	
Brönö	29.93	760.2	29.97	761.2	62.6	17.0	80	N	9	4	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.88	757.6	29.97	761.2	71.1	21.7	56	SSE	2	1	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.93	760.3	29.98	761.4	53.2	11.8	80	NE	7	3	.....	.....	10	.....	.....	0.012	0.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.75	755.6	29.93	760.3	75.0	23.9	83	WSW	15.0	6.7	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.3	29.94	760.5	92.6	33.8	14	WSW	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.3	30.14	765.5	73.4	23.0	67	SE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.8	30.02	762.6	80.1	26.7	49	NNW	9.8	4 4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.97	761.1	30.05	763.3	78.4	25.7	75	SW	18.6	8.3	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall a Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	.....	NW	D. clouds	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd Island	.....	SW	D. clouds	.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	SSW	D. clouds	.....	J.G. Feigo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.3	29.80	756.5	59.7	15.4	90	ENE	7	3	.....	.....	10n	.....	.....	.....	.....	Raining	Astronomical Obs.
Wilna	29.41	747.1	29.82	757.4	67.5	19.7	70	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.69	754 0	29.92	759.5	66.9	19.4	80	ESE	9	4	.....	.....	5k	.....	.....	.....	.....	...	Prof. Dr. Weihrauch.
St. Petersburg	29.90	759.5	29.92	759.9	68 5	20.3	62	ENE	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.12	739.6	29.73	755.1	66.4	19.1	71	E	9	4	.....	.....	8k;ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.72	755.0	29.80	756 8	76.8	24.9	66	S'	18	8	.....	.....	8ks	.....	.....	.....	.....	.. ..	Kurdukof.
Kertch	29.89	759.1	29.91	759.6	74.8	23.8	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.34	745.2	29.87	758.8	63.5	17.5	52	NW	7.8	3.5	.....	.....	8kc	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.60	751.9	29.80	756.9	73.9	23.3	58	WNW	22	10	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.95	760.7	29.97	761.2	57.9	14 4	76	Calm	0	0	.....	.....	2ks	.....	.....	.....	.....	.....	Capt. Sselivierstow.
Tiflis	28.40	721.4	29.72	754.9	89.6	32.0	56	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.95	760.6	29.86	758.5	83.3	28.5	41	SSW	11	5	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.28	743.7	29.74	755 5	54.3	12.4	91	Calm	0	-0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Farjanow.
Kasan	29.48	748.8	29.74	755.4	66 0	18.9	62	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.81	731.8	29.76	755.9	52.5	11.4	96	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.58	751.2	29.80	756.8	68.7	31.5	28	NNE	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.15	714.9	29.58	751.3	95.5	35.3	47	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.92	734.5	29.39	746 5	73.6	23 1	40	SW	13	6	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.04	737.5	29.31	744.5	55.9	13.3	97	E	7	3	.....	.....	10	.....	.....	.....	.....	Thunder-storm.	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.51	749.5	29.65	753.1	75.2	24.0	73	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.73	755.2	29.83	757.7	65.5	18.6	81	ESE	34	15	.....	.....	10n	.....	.....	.....	.....	Heavy rain.	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 466 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	81.0	27.2	58	SSE	3.4	1.50	.....	.....	4lc	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.93	760.2	29.98	761.6	90.0	32.2	45	S	2.5	1.10	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.14	689.3	.....	.....	84.2	29.0	35	SW	4.3	1.91	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.84	707.0	29.90	759.4	94.3	34.6	27	S	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.89	759.1	30.03	762.7	90.1	32.3	49	ENE	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.10	739.1	29.96	760.9	75.6	24.2	76	SW	0	0	.....	0	8	.....	.....	0.012	0.3	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.83	757 7	29.89	759.2	82.7	28.2	80	ENE	6.0	2.7	.....	1c	0	NE	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.89	759.2	85.3	29.6	74	WSW	5.6	2.5	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.3	29.99	761.7	86.2	30.1	59	SE	4.7	2.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.85	758.2	29.94	760.5	81.3	27.4	79	SE	0	0	.....	3cs	3k	SE	SE	0.856	21.75	Clear	Leonardo de Fojeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 850 meters, or 2,822 feet; Madrid 675.6 m, or 2,160.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.95	760.6	29.98	761.6	65.2	19.0	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.92	759.9	29.97	761.2	70.9	21.6	61	S S	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	29.92	759.9	29.97	761.2	74.1	23.4	46	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.79	756.7	29.87	761.2	68.7	20.4	53	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Wisby	29.82	757.3	29.87	758.8	69.8	21.0	52	E	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.86	758.5	29.95	760.7	69.1	20.6	52	NE	4.0	1.8	.....	.....	6	.....	.....	0.006	0.14	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.1	30.00	761.9	73.2	22.9	61	WSW	.....	.....	4	.....	6	.....	.....	0.024	0.6	Cloudy.....	The Observatory.
Zurich	28.38	720.9	29.97	761.3	68.7	20.4	70	W	.....	.....	4	.....	8	.....	.....	0.043	1.1	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.7 mm.; Thermometer, +1.4 Cent.; Relative Humidity, +5 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.61	757.2	68.3	31.3	36	SW	3	1.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.5	67.4	30.8	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightlycl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.66	753.4	29.78	756.3	83.5	28.6	61	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.81	757.2	29.87	758.7	55	12.8	90	E	16	7.2	.....	.....	10n	.....	E	0.72	18.3	Heavy rain.	G. A. Ball
Charlottetown, P. E. Island	29.82	757.4	29.87	758.7	53	11.7	95	E	24	10.7	.....	.....	10n	.....	E	1.015	25.78	Heavy rain.	H. J. Cundall, C. E
Cornwall, Ontario	29.71	754.6	29.90	759.4	60.2	15.7	85	NE	.....	.....	1	6cs	8s	NE	.....	0.003	0.08	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.95	760.7	52.5	11.4	83	E	.....	.....	3	.....	10n	.....	.....	.....	.....	Light rain...	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	49	9.4	93	NE	20	8.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.55	750.6	29.61	752.1	53.6	11.7	95	NE	26	11.6	.....	.....	10n	.....	NE	3.53	89.6	Raining.....	Prof. Harrison.
*Fort Garry, Manitoba	28.85	732.8	28.64	752.8	61	16.1	97	SE	15	6.7	.....	5k	5n	SE	SE	0.070	1.78	Cloudy.....	James Stewart.
Granton, Ontario	29.10	736.6	30.08	764.0	59	15.1	94	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.61	752.1	29.74	755.4	57	13.9	98	SE	24	10.7	.....	.....	10n	.....	SE	1.805	45.8	Heavy rain..	F. Allison, M. A.
Hamilton, Ontario	29.71	754.6	30.06	763.5	64.5	17.9	73	W	.....	.....	2	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.67	753.6	29.99	761.7	62	16.7	83	NE	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	30.02	762.5	30.05	763.3	57.0	13.9	96	NE	10	4.5	.....	.....	10n	.....	.....	.....	.....	Raining.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.72	754.9	29.91	759.7	59	15.0	81	N	10	4.5	.....	.....	10s	.....	E	0.04	1.0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.36	745.7	30.04	763.0	60	15.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.26	743.2	29.99	761.7	64.5	17.3	73	SE	.....	.....	2	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.30	746.5	30.07	763.8	59	15.0	88	NW	0	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.87	758.7	29.92	760.0	55.0	12.8	.....	SW	15	6.7	.....	.....	.....	.....	.....	1.20	30.5	Raining.....	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.07	763.8	59	15.0	94	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.58	751.3	29.90	759.4	55	12.8	97	NE	.....	.....	6	.....	10n	.....	NE	0.47	11.9	Light rain...	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.05	763.3	55	12.8	94	NW	2	0.9	.....	.....	Fog	.....	NW	0	0	Foggy.....	W. H. McIntyre.
St. Andrews, N. B	29.32	744.7	29.37	746.0	58	14.4	95	E	.....	.....	4	.....	10n	.....	.....	2.93	74.4	Heavy rain..	Dr. Gove.
St. John, N. B	29.38	746.2	29.44	747.8	55	12.8	93	E	31	13.9	.....	.....	10n	.....	.....	3.07	78.81	Heavy rain..	G. Murdock, C. E.
*Saugeen, Ontario	29.36	745.7	30.06	763.5	62	16.7	87	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	30.02	762.5	30.06	763.5	55	12.8	90	E	4	1.8	.....	.....	10n	.....	.....	0.02	0.5	Light rain...	Magnetic Observatory.
Windsor, N. S	29.67	753.6	30.04	763.0	66	18.9	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Woodstock, Ontario	29.63	752.6	29.69	754.1	69.8	15.3	94	E	18	8.0	.....	.....	10n	.....	.....	1.47	37.3	Raining	Prof. J. Montgomery.
Sub-Series.	29.02	737.1	30.06	763.5	69.2	15.1	82	W	8	3.6	.....	0	1s	.....	.....	0	0	Clear.....	
St. Johns, Newfoundland	29.97	761.2	30.22	767.6	59.0	15.0	70	Calm	.....	.....	.....	10k	10s	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 365 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.66	753.9	29.90	759.4	64	17.8	73	NW	18	8.0	.....	5k	2s	NW	NW	1.61	38.4	Clearing.	
Alpena, Michigan	29.42	747.3	30.06	763.5	57	13.9	87	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	55	12.8	100	SW	2	0.9	.....	10s	.....	.....	SW	0	0	Cloudy	
Atlanta, Georgia	28.87	733.3	29.98	761.6	67	19.4	84	NE	9	4.0	.....	2k	0	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	30.01	762.2	30.02	762.5	66	18.9	74	NW	4	1.8	.....	0	0	.....	.....	7.99	202.9	Clear	
Augusta, Georgia	29.88	758.4	30.05	763.3	76	24.4	82	NE	4	1.8	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Baltimore, Maryland	30.04	763.0	30.09	764.3	66	18.9	64	NW	7	3.1	.....	0	Sm'e	.....	Calm	0.55	14.0	Clear	
Barnegat, New Jersey	29.97	761.2	29.99	761.7	68	20.0	74	NW	15	6.7	.....	0	0	.....	.....	7.67	194.8	Clear	
Bismarck, Dakota	27.95	709.9	29.80	756.9	59	15.0	88	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.56	725.4	29.84	757.9	68	20.0	90	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.93	684.0	29.80	759.2	60	15.6	49	E	1	0.4	.....	5k	Sm'e	SW	Calm	0	0	Fair	
Boston, Massachusetts	29.68	753.8	29.73	755.1	64	17.8	73	NW	24	10.7	.....	1ck	1s	NW	NW	4.99	126.7	Fair	
Brackettville, Texas	28.88	733.5	29.89	759.2	67	19.4	64	E	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.74	730.0	29.70	754.4	58	14.4	100	SE	16	7.2	.....	.....	Fog	.....	.....	0.15	3.8	Foggy	
Brownsville, Texas	29.87	758.7	29.92	760.0	76	24.4	95	E	4	1.8	.....	5k	0	E	.....	0.29	7.4	Fair	
Buffalo, New York	29.36	745.7	30.03	762.7	66	18.9	59	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.61	752.1	29.89	759.2	57	13.9	94	N	13	5.8	.....	.....	10n	.....	N	0.17	4.3	Light rain	
Cairo, Illinois	29.71	754.6	30.09	764.3	70	21.1	75	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Campo, California	27.33	694.2	29.80	759.4	49	9.4	78	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.11	764.5	30.12	765.0	71	21.7	62	NE	12	5.4	.....	.....	10s	.....	SW	0.14	3.6	Cloudy	
Cape Henry, Virginia	30.05	763.8	30.09	764.3	69	20.6	85	W	4	1.8	.....	0	0	.....	.....	3.82	97.0	Clear	
Cape Lookout, N. Carolina	30.07	763.8	30.08	764.0	75	23.9	72	E	24	10.7	.....	.....	10s	.....	Calm	1.05	26.7	Cloudy	
Cape May, New Jersey	30.00	762.0	30.03	762.7	67	19.4	74	NW	22	9.8	.....	0	0	.....	.....	7.38	187.5	Clear	
Castroville, Texas	29.23	742.4	29.91	759.7	76	21.4	77	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.95	760.7	30.00	762.0	81	27.2	87	SE	1	0.4	.....	2k	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.23	742.4	30.02	762.5	70	21.1	66	NE	9	4.0	.....	2c	0	SW	.....	0.08	2.0	Fair	
Chattanooga, Tennessee	29.26	743.2	30.04	763.0	69	20.6	65	NE	3	1.3	.....	2k	0	Calm	.....	0	0	Fair	
Cheyenne, Wyoming	24.04	610.6	29.95	761.5	57	13.9	36	NW	4	1.8	.....	5c	0	Calm	.....	0.02	0.5	Fair	
Chicago, Illinois	29.37	746.0	30.04	763.0	65	18.3	58	SW	6	2.7	.....	10cs	0	S	.....	0	0	Cloudy	
Cincinnati, Ohio	29.48	748.8	30.12	765.0	62	16.7	77	E	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.39	746.5	30.11	764.8	60	15.6	77	N	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.21	716.5	29.82	757.4	70	21.1	70	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.28	743.7	30.11	764.8	58	14.4	82	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Concho, Texas	28.11	714.0	29.73	755.1	70	21.1	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.64	750.3	29.99	761.7	74	23.3	81	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Davenport, Iowa	29.33	745.0	29.95	760.7	63	17.2	83	SW	12	5.4	.....	.....	10s	.....	SW	0.11	2.8	Cloudy	
Deadwood, Dakota	25.30	642.6	.....	.....	54	12.2	74	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Decatur, Texas	28.82	732.0	29.95	760.7	74	23.3	72	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.19	741.4	29.95	760.7	73	22.8	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.76	628.9	29.98	761.5	60	15.0	44	S	40	17.9	.....	5ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.01	736.8	29.86	758.4	64	17.8	83	S	8	3.6	.....	0	5s	.....	SW	0.04	1.0	Fair	
Detroit, Michigan	29.44	747.5	30.08	764.0	60	15.6	77	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.26	692.4	29.42	747.3	70	21.1	57	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.50	744.2	29.98	761.5	62	16.7	61	S	4	1.8	.....	5k	0	S	.....	0.25	6.3	Fair	
Duluth, Minnesota	29.19	741.4	29.8	757.7	63	17.2	89	SW	4	1.8	.....	.....	10s	.....	SW	0.15	3.8	Cloudy	
Eagle Pass, Texas	29.21	741.9	29.92	760.0	75	23.9	86	E	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	29.24	742.7	29.30	744.2	53	11.7	100	E	54	24.1	.....	.....	10n	.....	E	2.41	61.2	Heavy rain	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.22	666.0	.....	.....	60	15.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.38	746.2	30.07	763.8	65	18.3	84	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.40	746.7	30.04	763.0	58	14.4	88	W	2	0.9	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Florence, Arizona	28.34	719.8	29.94	760.5	80	26.7	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.76	705.1	29.55	750.6	51	10.6	78	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Custer	26.67	677.4	.....	.....	.....	.....	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	58	14.4	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.95	760.7	72	22.2	62	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	77	25.0	49	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.72	729.5	29.95	760.7	71	21.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.25	692.1	.....	.....	52	11.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.78	705.6	29.04	762.8	67	19.4	79	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.79	756.7	71	21.7	66	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.92	709.2	.....	.....	55	12.8	87	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	67	19.4	60	NW	.....	.....	1	1ck	0	Calm	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.14	714.7	29.62	752.3	74	23.3	81	S	3	1.3	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	79	26.1	70	SE	7	3.1	.....	2ck;hz	0	Calm	.....	Inap.	Inap.	Clear	
Graham, Texas	28.89	733.8	29.90	759.4	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.43	747.5	30.07	763.8	58	14.4	76	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.99	736.3	29.90	759.4	68	20.0	74	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy	
Indianapolis, Indiana	29.32	744.7	30.09	764.3	60	15.6	77	Calm	0	0	.....	2c	Haze	Calm	Calm	0	0	Clear	
Indianola, Texas	29.99	761.7	30.02	762.5	79	26.1	74	SE	7	3.1	.....	1cs	Haze	SW	Calm	0	0	Clear	
Jacksboro, Texas	28.85	732.8	29.92	760.0	74	23.3	63	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.00	762.0	82	27.8	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.41	747.0	30.01	762.2	65	18.3	78	S	3	1.3	.....	.....	10n	.....	Calm	0.82	20.8	Light rain	
Key West, Florida	29.90	759.4	29.93	760.2	85	29.4	76	E	8	3.6	.....	2k	0	E	.....	0.12	3.0	Fair	
Kittyhawk, North Carolina	30.02	762.5	30.05	763.3	70	21.1	85	Calm	0	0	.....	5ck	0	W	.....	0.76	19.3	Fair	
Knoxville, Tennessee	29.79	756.9	30.07	763.8	64	17.8	73	NE	6	2.7	.....	0	2ks	.....	Calm	0	0	Fair	
La Crosse, Wisconsin	29.21	741.9	29.92	760.0	64	17.8	94	S	3	1.3	.....	10k	0	S	.....	0.16	4.1	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.0	767.1	56	13.3	63	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Laredo, Texas	29.52	749.8	29.84	757.9	84	28.9	54	E	5	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.98	736.1	29.78	756.4	70	21.1	70	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.74	755.4	30.09	764.3	64	17.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.51	749.5	29.85	758.2	54.0	15.0	91	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.51	750.3	30.10	764.5	62	16.7	77	SW	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.45	748.0	30.12	765.0	68	20.0	69	NE	2	0.9	.....	2cs	0	S	.....	0	0	Fair	
Madison, Wisconsin	29.01	736.8	29.96	761.0	63	17.2	83	E	4	1.8	.....	5cs	8s	W	W	0.23	5.8	Cloudy	
Marquette, Michigan	29.28	743.7	29.96	761.0	63	17.2	72	S	1	0.4	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Mason, Texas	28.50	721.2	30.12	765.0	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.08	764.0	66	18.9	68	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.30	744.2	30.01	762.2	63	17.2	72	S	3	1.3	.....	.....	10n	.....	S	Inap.	Inap	Light rain	
Mobile, Alabama	29.99	761.7	30.05	762.7	67	19.4	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.81	757.2	30.04	763.0	68	20.0	84	N	4	1.8	.....	1k	0	NW	.....	C	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observe'r.
Morgantown, West Virginia	29.16	740.7	30.14	765.5	60	15.6	77	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Fair	
Mt. Washington, N. H.	28.54	597.9	29 90	759.4	41	5.0	100	N	60	26.8	.....	.....	10n	.....	N	3.57	90.7	Light rain	
Nashville, Tennessee	29.56	750.8	30.08	764 0	66	18.9	79	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut	29.77	756.1	29.88	758.9	69	20.6	70	NW	10	4.5	.....	2k	0	Calm	.....	5.10	129.5	Clear	
New London, Connecticut	29.79	756.7	29 84	757.9	68	20.0	70	NW	10	4.5	.....	1k	0	N	.....	4.34	110 2	Clear	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	78	25 6	61	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.77	756.1	29 82	757.4	66	18.9	76	W	19	8.5	.....	0	0	.....	.....	1.96	49.8	Clear	
New York, New York	29.78	756.4	29 96	761.0	66	18.9	73	NW	11	4.9	.....	0	2s	.....	Calm	1.16	29.5	Clear	
Norfolk, Virginia	30.04	763.0	30.10	764.5	70	21.1	55	SW	4	1.8	.....	1ck	0	NW	.....	5.13	130.3	Clear	
North Platte, Nebraska	29.02	683.8	29.57	746.0	61	16.1	88	NW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Olympia, Washington Ter.	29.72	754.9	29.76	755.9	50.4	10.2	93	N	2	0.9	.....	2cs	Sm'e	Calm	Calm	0	0	Fair	
Omaha, Nebraska	28.66	728.0	29.70	754.4	69	20.6	80	E	8	3 6	.....	0	Sm'e	.....	Calm	0.62	0.5	Clear	
Oswego, New York	29.72	754.9	30.04	763.0	62	16.7	83	N	8	3.6	.....	5c	0	N	.....	Inap	Inap.	Fair	
Pembina, Dakota	28.81	731.8	29.59	751.6	60	15.6	100	SE	10	4.5	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Philadelphia, Pa.	29.94	760.5	29.99	761.7	65	18.3	73	W	12	5.4	.....	2ck	0	NW	.....	1.68	45.7	Fair	
Phœnix, Arizona	28.62	726.9	30.32	770.1	76	24.4	45	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.05	458.5	30.26	768.6	39	3.9	31	SW	12	5.4	.....	2k	0	Calm	.....	0.16	4.1	Clear	
Pilot Point, Texas	29.08	738.6	29 87	758.7	78	22.8	63	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.05	610.9	29 82	757.4	62	16.7	46	S	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Pittsburg, Pennsylvania	29.32	744.7	30.12	765.0	56	13.3	87	NW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.42	747.3	30.07	763.8	61	16.1	71	W	2	0.9	.....	Haze	0	.....	.....	0	0	Clear	
Portland, Maine	29.50	749.3	29.55	750.6	60	15.6	88	NW	24	10.7	.....	.....	10n	.....	Calm	2.03	51.6	Light rain	
Portland, Oregon	29.75	755.6	29.82	757.4	58.3	14 6	83	SE	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Prescott, Arizona	24.75	628.6	30.11	764.8	60	15.6	71	SW	.....	.....	1	1ck	0	SW	.....	0.06	1.5	Clear	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	82	27.8	79	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.43	747.5	29 77	756.1	67	19.4	55	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.78	756.4	29.99	761.7	73	22.8	93	E	4	1.8	.....	.....	10s	.....	E	0.24	6.1	Cloudy	
Rochester, New York	29.44	747.8	30.05	763.3	61	16.1	82	W	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Roseburg, Oregon	29 31	744.5	29.87	758.7	55	12.8	90	Calm	0	0	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Sacramento, California	29.72	754.9	29.80	756.9	66	18.3	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.48	749.0	30.05	763.3	65	18.3	63	S	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
St. Marks, Florida	29.99	761.7	30.01	762.2	72	22.2	80	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.00	736.6	29.80	756.9	60	15.6	88	SE	6	2.7	.....	5ck	0	SW	.....	0.09	2 3	Fair	
Salt Lake City, Utah	25.52	648.2	29 86	758.4	73	22.8	43	E	6	2.7	.....	4k	0	S	.....	Inap.	Inap.	Fair	
San Antonio, Texas	29.30	744.2	29.86	758.4	74	23.3	86	E	2	0.9	.....	5cs	0	SE	.....	0	0	Cloudy	
San Diego, California	29.79	756.7	29.86	758.4	65	18.3	89	NE	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Sandusky, Ohio	29.45	748.0	30.11	764.8	61	16.1	71	W	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	29.92	760.0	29.96	760.7	68	20.0	74	W	22	9.8	.....	0	0	.....	.....	5.04	128.0	Clear	
San Francisco, California	29.81	757.2	29.87	758.7	55	12.8	93	W	4	1.8	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	24.36	618.3	29.90	759.4	59	15.0	35	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.93	760.2	30 02	762.5	83	28.3	79	N	1	0.4	.....	2k	0	Calm	.....	Inap	Inap.	Fair	
Shreveport, Louisiana	29.84	757.9	30.05	763.3	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.03	762.7	30.06	763.5	73	22.8	95	W	2	0.9	.....	.....	10n	.....	Calm	0.54	13.7	Light rain	
Socorro, New Mexico	25.41	645.4	29.48	748.8	63	17.2	42	S	1	0.4	.....	1c	0	Calm	.....	0	0	Clear	
Springfield, Ill	29.40	746.7	30.06	763.5	61	16.1	75	SE	5	2.2	.....	8ck	2s	W	W	0	0	Threatening	
Spr. gfield, Massachusetts	29.71	754.6	29.84	757.9	66	18.9	74	NW	8	3.6	.....	0	5ks	.....	NW	4.36	110.7	Fair	
Stockton, Texas	29 96	684.8	29.96	761.0	68	20 0	18	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.03	752.6	29.68	753.9	62	16.7	100	NW	30	13.4	.....	.....	10n	.....	NW	4 77	121.2	Light rain	
Toledo, Ohio	29.40	746.6	30.08	764.0	61	16 1	82	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.44	697.0	29.98	761.5	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.32	744.7	29.78	756.4	61.0	16.1	35	SE	6	2.7	.....	0	Haze	.....	Calm	0	0	Fair	
Uvalde, Texas	29.08	738.6	29.87	758.7	73	22.8	90	NE	1	0.4	.....	1k	5s	SE	S	0	0	Fair	
Vicksburg, Mississippi	29.83	757.7	30.08	764.0	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.18	614.2	29.56	750.8	60	15.6	24	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.42	747.3	29.78	756.4	59	15.0	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.98	761.5	30.09	764.3	64	17.8	73	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.48	12.2	Clear	
Wilmington, N. Carolina	29.98	761.5	30.05	763.3	72	22.2	100	S	11	4.9	.....	.....	10n	.....	Calm	3.98	101.1	Heavy rain	
Winnemucca, Nevada	25.53	648.4	29.89	759.2	62	16.7	51	SW	7	3.1	.....	0	4s	.....	SW	Inap.	Inap.	Fair	
Wood's Holl, Mass.	29.74	755.4	29.78	756.4	67	19.4	84	NW	24	10.7	.....	2ck	0	NW	.....	0.73	18.5	Clear	
Yankton, Dakota	28.47	723.1	29.69	754.1	67	19.4	84	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.59	751.6	29.75	755.6	79	26.1	82	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.84	757.9	29.89	759.2	84	28.9	79	SE	1.2	0.5	.....	4c	0	Calm	.....	0	0	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink
Medellin, Colombia, S. A.	25.20	641.0	....	.....	64.0	17.8	87	Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.80	756.9	29.88	758.9	83	28.3	.....	E	.....	.....	0	.....	10n	.....	.....	0.46	11.7	.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	29.98	761.5	29.99	761.7	80	26.7	82	SE	.....	.....	3	4c	5k	SE	.....	0	0	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	29.85	758.2	29.87	758.7	79	26.1	82	NE	1.2	0.5	.....	8c	4ks	W	SE	Blank	Blank	Fair	O. J. Hering.
St. Thomas, W. I.	29.57	751.1	29.68	751.3	83	28.3	79	E	5	2.2	.....	2c	2ks	NE	.....	0.10	2.5	Clear	Robert Mason.
York Factory, B. A.	29.71	754.6	29.76	755.9	57.0	13.9	91	SE	14	6.3	.....	6k	2s	E	SE	0	0	Cloudy	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,208 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m; Graham, 1,040 (?) ft., or 317 (?) m.. Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,463 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft.,or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,490 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.850 inches., or 47.1 millimeters: Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.91 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96,in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.60 in., or 66.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known. §This wind velocity is very approximately correct; the anemometer cups blown away

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-Swell. Character.	Sea-Swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.40‡	772.1‡	.....	.....	75	23.9	72	N	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡	.....	.....	74.5	23.6	83	SW	.....	.....	1	.....	7ks;k	.....	E	Slight	Slight	.....	.....	Clearing	
Adams, Mare I'd, Navy Yard, Cal.	29 81‡	757.2‡	.....	.....	58	14.4	100	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Alaska, N. 26° 43′, W. 114° 58′	29.77‡	756.1‡	.....	.....	71	21.7	90	N	.....	.....	3	.....	5	.....	S	0	0	Smooth	.....	D. clouds	
Alliance, Copenhagen, Denmark	29.89‡	759.2‡	.....	.....	63	17.2	78	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Ashuelot, Yokohama, Japan	29.91‡	759.7‡	.....	.....	76	24.4	82	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Raining	
Colorado, New York, N. Y.	29.92‡	760.0‡	.....	.....	67	19.4	69	WNW	12	5.4	.....	.....	0	.....	.....	3.21	81.5	.....	.....	Misty	
Constellation, Block Island Sound, R.I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	29.91‡	759.7‡	.....	.....	68	20.0	74	NW	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Cowes, England	29.86‡	758.4‡	.....	.....	63	17.2	94	S	.....	.....	2	.....	10	.....	SW	.....	.....	Mod'ate	.....	Cloudy	
Essex, Rio de Janeiro, Brazil	30.26‡	768.3‡	.....	.....	69	20.6	95	N	.....	.....	2	.....	1	.....	.....	.....	.....	Smooth	.....	Clear	
Franklin, Norfolk, Va.	30.16‡	764.5‡	.....	.....	69	20.6	90	WNW	.....	.....	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Hartford Rio de Janeiro, Brazil	30.24‡	768.1‡	.....	.....	70	21.1	75	Var.	.....	.....	0–1	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	29.87‡	758.7‡	.....	.....	60	15.6	82	SSW	4.8	2.1	.....	.....	5†	.....	SSW	.....	.....	.....	.....	Clear†	
Kearsarge, St. Pierre, off Newfoundl'd.	30.14‡	765.5‡	.....	.....	58	14.4	88	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Hazy	
Lackawana. Apia, Samoa Is. †	29.87‡	758.7‡	.....	.....	78	25.6	78	SE	.....	.....	3	.....	2	.....	ESE	.....	.....	Smooth	.....	Fair	
Michigan, Chicago, Ill.	29.99‡	761.7‡	.....	.....	64	17.8	65	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy. Shanghai, China	29.73‡	755.1‡	.....	.....	88	31.1	72	S	.....	.....	1	.....	2	.....	SSW	.....	.....	.....	.....	Fair	
Monongahela, Hakodadi, Japan	29.93‡	760.2‡	.....	.....	68	20.0	60	SSE	.....	.....	4	.....	kn	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡	.....	.....	82	27.8	91	SE	6	2.7	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Onward, Callao, Peru †	30.00‡	762.0‡	.....	.....	60	15.6	83	E	.....	.....	2	.....	2	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	29.74‡	755.4‡	.....	.....	84	28.9	96	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.07‡	763.8‡	.....	.....	66	18.9	89	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 15° 53′, W. 74° 35′	30.07‡	763.8‡	.....	.....	63	17.2	83	ESE	.....	.....	2	.....	9	.....	.....	.....	.....	Long	S	Clear	
Portsmouth, Portland, Maine	29.60‡	751.8‡	.....	.....	59	15.0	100	NNW	.....	.....	4	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining	
Powhatan, N. 24° 19′, W 81° 42′	29.95‡	760.7‡	.....	.....	86	30.0	76	ENE	.....	.....	5	.....	8	.....	E	0.05	1.3	Mod'ate	E	Cloudy	
Quinnebaug, Trieste, Austria	29.91‡	759.7‡	.....	.....	78	25.6	61	E	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Ranger, Nagasaki, Japan §	30.12‡	765.0‡	.....	.....	85	29.4	83	S	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.91‡	759.7‡	.....	.....	78	25.6	82	WSW	.....	.....	1	.....	8	.....	.....	0	0	Smooth	.....	Overcast	
Rio Bravo, Brownsville, Texas	29.96‡	759.4‡	.....	.....	77	25.0	100	Calm	.....	.....	0	.....	5	.....	ESE	0.35	8.9	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.07‡	763.8‡	.....	.....	66	18.9	74	NW	.....	.....	1	.....	0	.....	.....	2.05	52.1	.....	.....	Clear	
Saratoga, Newport, R. I.	29.81‡	757.2‡	.....	.....	65	18.3	94	WNW	.....	.....	6	.....	2	.....	Calm	Heavy	Heavy	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.01‡	762.2‡	.....	.....	65	18.3	89	W	11	4.9	.....	.....	2	.....	WNW	2.1	53.	.....	.....	Clear	
Trenton, Gravesend, Eng.	29.86‡	758.4‡	.....	.....	62	16.7	88	SW	.....	.....	1–2	.....	10	.....	S;W	0.01	0.3	Smooth	.....	Drizzling	
Tuscarora, Mare Isl. Navy Yard, Cal	29.85‡	758.2‡	.....	.....	58	14.4	88	SSW	.....	.....	2–4	.....	10	.....	NNE	0	0	Smooth	.....	Squally	
Vandalia, N. 29° 53′, W. 86° 30′	30.01‡	762.2‡	.....	.....	80	26.7	62	N	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	29.59‡	751.6‡	.....	.....	65	18.3	73	NW	11	4.9	.....	.....	5	.....	.....	2.07	52.6	.....	.....	Cloudy	
Wachusett, N. 39° 30′, W. 73° 40′	29.92‡	760.7‡	.....	.....	65	18.3	84	WNW	.....	.....	5	.....	2	.....	Calm	.....	.....	Mod'ate	S	Fair	
Wyoming, Novorosiiskoe, Black Sea	29.83‡	757.7‡	.....	.....	75	23.9	68	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	NW	Clear	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction						
											Upper.	Lower.	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 7° 16′, W. 83° 04′†		29.94‡	760.6‡	77	25.0	91	W		3		10		WNW	1.45 in. or 36.8mm	Mod'ate	WSW	Raining		Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Cannon.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		30.42‡	772.7‡				SW		2		10		SW				Raining		R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES.																			
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.02‡	760.0‡	66	30.0	79	SW			2		6cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 46° 11′, W. 174° 03′		29.87‡	758.7‡	67	19.9	100	S			4		10		S		3	SW	Overcast	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 51′, W. 23° 12′		29.39‡	746.6‡	66.0	18.9	64	W			6		5		W	1 h'r	Cross	W	Cloudy†	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 14′, W. 17° 15′		29.60‡	751.8‡				SW			4		5		SW		5	NW	Cloudy†	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 8; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.70‡	754.4‡	64	17 8	83	S			5		6		SW	0			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 28° 02', W. 30° 19'		30.21‡	67.3‡	77.8	25.4	61	ESE			3		8				3	ESE	Overcast	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D.,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.3	70.9	21.6	86	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.94	760.4	82.0	27.8	73	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.87	758.6	90.7	32.6	44	WSW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Tourillere.
La Calle	.....	.....	29.95	760.8	83.3	28.5	74	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.09	764.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gatt.
Saida	.....	.....	29.92	759.9	95.5	35.8	16	SSW	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.02	762.4	86.3	35.7	24	SSE	.....	.....	1	.....	2	.....	.....	0.028	0.7	Fair	Watrin.
Geriville	.....	.....	.....	.....	73.6	23.1	50	SSE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.00	762.0	102.9	39.4	24	SW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.95	760.6	104.0	40.0	31	E	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.45	748.0	29.98	761.4	76.5	24.7	62	NE	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.24	742.7	29.99	761.9	65.1	18.4	65	WNW	4.3	1.9	.....	.....	10	.....	.....	0	0	Sprinkling	Prof. Dr. Karlinski, Dir.
Eperies	29.04	737.6	29.89	759.2	64.8	18.2	71	NW	.....	.....	5	.....	3cs	.....	SE	0.776	19.70	.....	Julius Mikolik.
Gratz	28.80	731.4	30.01	762.2	70.7	21.5	72	SSE	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.47	723.1	29.87	758.8	68.3	14.6	84	WNW	.....	.....	8	.....	5	.....	.....	0.008	0.2	.....	Prof. A. Gottschling.
Kremsmünster	28.72	729.4	30.02	762.5	68.0	20.0	87	Calm	.....	.....	0	.....	9	.....	.....	0.36	9.3	.....	Prof. C. Wagner.
Lemberg	28.80	731.6	29.76	755.9	57.6	14.2	90	W	.....	.....	3	.....	10	.....	.....	0.039	1.0	.....	Dr. T. Stanecki.
Pola	29.89	759.1	29.99	761.8	82.2	27.9	55	W	.....	.....	1	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.43	747.5	29.86	759.0	64.9	18.3	68	NW	.....	.....	6	.....	8	.....	.....	0.118	3.0	.....	Pet Pancsics.
Szegedin	29.66	753.4	29.93	760.2	77.0	25.0	59	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.6	30.01	762.2	80.2	26.8	66	W	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.32	744.8	30.05	763.3	71.4	21.9	57	WNW	.....	.....	2	.....	3	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.48	748.8	29.58	751.3	54.7	12.6	.....	SE	20	8.9	.....	.....	10	.....	.....	0.160	4.06	Raining	W. Boswell.
Ardrossan	29.45	48.0	29.47	748.5	60	15.6	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Raining.....	Wm McNeil &G.Carrick.
Armagh, Observatory	29.28	743.7	29.50	749.3	63.3	17.4	.....	SW	7	3.1	.....	.....	9	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.55	750.6	65.0	18 3	.....	SSW	9	4.0	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.52	749.8	65.5	18.6	.....	S	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.15	740.4	29.54	750.3	67.9	19.7	.....	NW	.....	.....	3	.....	3	.....	.....	0.14	3.6	D. clouds.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	78	25.6	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.56	750.8	29.65	753.1	66.5	19.2	.....	SSW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	H. Todd.
Cardington	.....	.....	29.61	752.1	68.0	20.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast. ...	John McLaren.
Chatham, School M. E.	29.59	751.6	29.72	754.9	63.8	17.7	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper R. E.
Donaghadee	29.48	748.8	29.52	749.8	62	16.7	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.74	755.4	29.76	755.9	64	17.8	.....	SW	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded ...	J. Costello.
Falmouth, Observatory	29.38	746.2	.....	.....	.....	.....	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast..	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone).	29.78	756.4	30.01	762.2	75	23.9	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.47	748.5	65	18.3	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.01	762.2	78.2	25.7	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds..	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.28	743.7	29.48	748.8	62.8	17.1	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	65	18.3	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	G. T. Watson.
Greenwich, Royal Obs'y	29.52	749.8	29.69	754.1	64.8	18.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.50	749.3	29.72	754.9	67	19.4	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	D clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.64	752.8	29.76	755.9	64	17.8	.....	SW	.....	.....	2	.....	8k	.....	.....	1.15	29.2	Foggy	M. P. Moyle.
Holyhead	29.55	750.6	29.56	750.8	60	15.6	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.59	751.6	29.77	756.1	66.8	19.3	.....	SSW	...	.....	4	.....	8	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.65	753.1	29.69	754.1	64.2	17.9	.....	SSW	19	8.5	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum.	29.34	745.2	29.58	751.3	65.0	18.3	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.85	758.9	29.96	761.0	83.4	28.6	.....	NE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.44	747.8	29.53	750.0	62	16.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.95	760.7	83.5	28.6	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.40	746.7	29.59	751.6	66.8	19.3	.....	SSW	.....	.....	3	.....	10d	.....	S	0.345	8.77	Raining.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.07	738.4	29.57	751.1	63.9	17.7	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.56	750.8	65	18.3	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.54	750.3	29.61	752.1	61.2	16.2	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.51	749.5	29.62	752.3	65	18.3	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.42	747.3	29.57	751.1	61	16.1	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.66	753.4	56.7	13.7	.....	ESE	27	12.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.75	755.6	29.82	757.4	85.2	29.6	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	D clouds....	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	2	.....	.....	.....	.....	0.18	4.6	Overcast....	W. F. Cooper.
Silloth Rectory	29.49	749.0	29.52	749.8	60.9	16.1	80	SW	.....	.....	5	.....	10	.....	.....	0.047	1.20	Overcast....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.54	750.3	65.0	18.	.....	S	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Straitfield, Turgiss	.....	.....	.....	.....	64.0	17.8	.....	SW	.....	.....	4-5	.....	10	.....	.....	.....	.....	Showery....	Rev. C.H.Griffith,F.M.S.
Truro, Royal Institution	29.64	752.8	29.65	753.1	65	18.3	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W.Newcombe.
Valencia, Observatory	29.51	749.5	29.53	750.0	58.9	14.9	.....	WSW	13	5.8	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.11	764.8	30.15	765.8	68.4	20.2	.....	S	5.0	2.2	.....	4	6	.....	.....	0	0	Cloudy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.53	750.0	61.8	16.6	.....	SE	.....	.....	1	.....	7k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.4	66.6	19.2	82	ESE	11.5	5.1	.....	.....	10	.....	.....	0.68	2.0	Drizzling....	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	50.8	10.4	87	NNE	5	2.2	.....	.....	0	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.50	749.3	.....	.....	.....	E	.....	.....	3	5	5	E	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	25.98	659.9	.....	.....	71.5	21.9	.....	NW	.....	.....	.....	2cs	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 8 a. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
H. M. S. "Fawn," N. 41° 00′ E. 28° 45′	.....	.....	29.851	758.21	78	25.6	.....	NNE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Capt. W. J. L. Wharton.
Algeria, N. 49° 35′, W. 26° 15′	.....	.....	29.35	745.5	55	12.8	.....	WSW	.....	.....	3	.....	9	.....	W	2	WNW	Showery.....	Capt. Wm. Watson.
German Brig "W. von Freeden" N. 46° 35′, W. 30° 35′	.....	.....	29.61	752.1	61	16.1	.....	NW	.....	.....	8	.....	8	.....	.....	7	NW	Raining	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount. the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
San José	26.23	666.2	29.95	760.7	66.2	19.0	100	Calm	.....	.....	0	.....	10nd	.....	.....	0.3	8.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.7	30.00	761.9	65.5	18.6	75	S	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	29.88	759.0	29.90	759.5	66.9	19.4	69	SSE	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.69	754.0	29.78	756.1	48.0	6.1	96	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Stykkisholm (Iceland)	29.74	755.5	29.79	756.6	58.3	14.6	98	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.76	756.0	29.80	756.9	52.5	11.4	97	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.82	757.5	29.93	760.3	66.0	18.9	67	SE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	73.8	23.2	79	S	.....	.....	1	.....	10kn	.....	.....	0.031	0.8	Covered	Collignon, Director.
Amiens, Normal School	29.75	755.7	29.85	758.3	78.6	26	69	S	.....	.....	1	.....	8	.....	NE	0.047	1.2	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.69	754.8	29.85	758.1	76.5	24.7	55	W	.....	.....	6	.....	.....	.....	W	0.169	4.3	.....	Klein, Commandant.
Avignon, Normal School	29.99	759.4	29.98	761.4	91.4	33	34	SE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.40	746.7	29.93	760.1	80.4	26.9	59	SSW	.....	.....	1	.....	5kn	.....	W	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.62	752.3	29.87	758.8	74.1	23.4	71	S	.....	.....	2	.....	10	.....	WSW	0.079	2.00	Covered	Frere Eugene Marie.
Besançon, Normal School	29.11	739.5	29.93	760.1	78.3	25.7	58	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.5	30.08	764.1	84.2	29	52	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.35	745.5	29.87	758.8	77.0	25	68	SE	.....	.....	2	.....	k	.....	SE	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.47	748.4	29.71	754.5	65.1	18.4	90	SW	.....	.....	5	.....	10	.....	SW	0.020	0.50	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.8	30.07	763.7	88.9	31.6	33	ESE	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.71	754.5	29.78	756.3	74.8	23.8	70	SW	.....	.....	3	.....	5	.....	SW	0	0	Cloudy	M. Bletrin, Director.
Chartres, Normal School	29.36	745.8	29.89	759.2	79.3	26.3	63	SE	.....	.....	1	.....	10	.....	N	0.031	0.8	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.1	29.95	760.8	79.2	26.2	62	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.58	725.8	29.84	757.8	88.3	31.3	36	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.12	739.7	29.94	760.5	77.4	25.2	65	WSW	.....	.....	3	.....	5kn	W	W	0.08	2.	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.95	735.3	30.09	764.3	91.6	33.1	34	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.33	745.0	30.07	763.6	78.1	25.6	67	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.72	754.9	29.93	760.1	78.6	25.9	67	W	.....	.....	1	.....	1	.....	SE	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.57	751.1	29.87	758.6	76.1	24.5	71	SW	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	Pourrier, Director
Lons-Le-Saulnier, N.School	29.11	739.3	30.00	761.9	73.8	23.2	74	SW	.....	.....	1	.....	2k	SW	SW	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.74	755.4	29.84	758.0	66.2	19.0	83	SSW	.....	.....	5	.....	.....	.....	S	0.055	1.40	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.36	745.7	29.94	760.4	85.6	29.9	43	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.69	754.2	29.99	761.8	82.9	28.3	57	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	28.95	735.2	29.94	760.5	75.0	23.9	72	S	.....	.....	1	.....	1k	W	W	.....	.....	Clear	Barbier, Director
Mont-Louis	25.00	635.1	30.32	770.1	77.9	25.5	44	SW	20.6	9.2	.....	.....	.....	.....	.....	0	0	.....	M. Cave
Nice	30.00	762.0	30.03	762.8	79.2	26.2	72	S	.....	.....	1	.....	1	S	S	0	0	Clear	M. Boissier, Director.
Nismes, Normal School	29.75	755.6	29.94	760.4	97.9	36.6	42	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.63	752.6	76.5	24.7	68	SSE	.....	.....	3	.....	4	.....	SW	0	0	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.77	577.6	.....	.....	66.0	18.9	.....	SSW	.....	.....	3	.....	1	.....	SSW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.85	758.3	29.96	760.9	80.2	26.8	69	E	7.4	3.3	.....	.....	0	.....	.....	0	0	Smoky	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.31	642.8	.....	.....	77.2	20.1	49	W	.....	.....	2	.....	2	.....	.....	0.008	0.2	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.71	754.6	30.02	762.5	72.9	22.7	74	SW	.....	.....	2	.....	8	SW	SW	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.76	755.9	29.84	758.0	73.0	22.8	79	S	.....	.....	1	.....	8	.....	S	0.087	2.2	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.74	755.4	29.77	756.2	72.5	22.5	66	SSW	.....	.....	5	.....	8	SSW	SSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.4	29.91	759.7	74.3	23.5	77	SSW	.....	.....	2	.....	8	SW	WSW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.87	733.3	29.91	759.7	75.2	24	78	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director
Toulouse, Observatory	29.24	742.6	29.96	760.9	69.6	32.0	40	SSE	.....	.....	2	.....	0	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.68	753.8	29.87	758.8	60.1	26.7	64	SSE	.....	.....	1	.....	1	.....	W	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.41	747.1	29.91	759.6	78.1	25.6	62	SSW	.....	.....	2	.....	8	.....	.....	0.002	0.04	Very cloudy	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.31	744.4	29.97	761.3	87.8	31	51	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.	.....	L'Abbé Marchést.
Zi-Ka-Wei (near Shanghai)	29.74	755.4	29.76	756.0	73.8	23.2	98	ESE	8.7	3.9	.....	.....	10n	.....	.....	1.469	37.3	Raining	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grésque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Grésque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,536.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.7	30.00	762.1	69.4	20.8	73	S	.....	.....	1	.....	7	.....	.....	0.024	0.6	.....	Prof. Dr. Hoh.
Berlin	29.87	758.6	30.03	762.8	67.1	19.6	44	S	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.53	750.0	30.06	763.5	67.3	19.6	60	NNW	.....	.....	2	.....	3	.....	.....	0.058	1.47	.....	Royal University Ob'y.
Carlsruhe	29.56	750.5	29.96	760.9	75.6	24.2	67	SW	.....	.....	2	.....	1	SW	.....	0.453	11.5	.....	Albert Senz.
Cassel	29.39	746.5	30.04	763.0	69.6	20.9	79	ESE	.....	.....	2	.....	6	SW	.....	0.088	2.23	.....	Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	72.1	22.3	73	S	.....	.....	3	.....	10	.....	.....	0.16	4.	.....	Director Lose.
Emden	.....	.....	29.86	758.5	65.5	18.6	96	SE	.....	.....	1	.....	10	.....	.....	0.394	10.0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.61	752.0	29.97	761.2	73.0	22.8	.....	SSW	.....	.....	1	.....	6	.....	.....	0.193	4.9	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.61	726.8	30.00	761.9	71.6	22.0	72	S	.....	.....	2	.....	4	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.89	759.2	29.96	760.9	68.9	20.6	59	SE	.....	.....	4	.....	6ks	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	29.93	760.3	29.95	760.7	68.2	20.1	66	ESE	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.5	66.7	19.3	74	N	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.98	761.6	62.8	17.1	.....	N	.....	.....	2	.....	2	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.60	751.8	30.00	762.1	73.4	23.0	56	S	.....	.....	2	.....	7	SSW	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.89	759.2	29.94	760.4	66.0	18.9	66	NW	.....	.....	3	.....	5s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.24	717.4	30.11	764.8	72.9	22.7	61	W	.....	.....	1	.....	6	SW	.....	0.492	12.5	.....	Dr. C. Lang.
Neufahrwasser	29.99	761.8	30.01	762.2	65.8	18.8	79	NNW	.....	.....	3	.....	2	.....	.....	0	0	.....	A. Lothes.
Posen	29.66	753.4	29.94	760.5	69.6	20.9	52	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.45	748.0	29.97	761.3	77.4	25.2	64	SSE	.....	.....	2	.....	2	SW	.....	0.242	6.16	.....	Imp. University Observatory.
Stuttgart	29.04	737.6	29.94	760.5	74.3	23.5	69	W	.....	.....	1	.....	6	W	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.2	30.01	762.2	70.0	21.1	63	Calm	0	0	.....	.....	5ck	.....	.....	0.118	3.0	Hazy	T. Hopfner.
Wustrow	29.98	761.5	30.01	762.2	70.3	21.3	62	SE	.....	.....	1	.....	7ks	.....	.....	0	0	.....	E. Schultz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.6	29.84	757.9	92.1	33.4	.....	SW	.....	.....	1.0	.....	k	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.5	29.60	751.8	84.0	28.9	70	W	17.0	7.6	.....	.....	4	E	.....	0	0	D. clouds	
Dessa	29.19	741.3	29.65	753.2	84.8	29.3	73	S	7.7	3.4	.....	.....	6	WSW	.....	0	0	D. cloudg	
Bombay	29.68	754.0	29.72	755.0	78.3	25.7	93	WSW	10.0	4.5	.....	.....	10	.....	SW	0.61	15.5	Overcast	
Poona	27.89	708.3	29.76	755.8	72.5	22.5	86	W	17.0	7.6	.....	.....	9	.....	W	0	0	D. clouds	
Lahore	28.82	731.8	29.55	750.6	81.0	27.2	83	NE	3.2	1.4	.....	.....	10	.....	.....	4.15	105.4	Overcast	
Belgaum	27.22	691.3	29.78	756.5	68.7	20.4	98	W	11.0	4.9	.....	.....	10	SW	SW	0.20	5.1	Overcast	
Roorkee	28.68	728.5	29.57	751.1	78.8	26.0	98	Calm	4.1	1.8	.....	.....	10	.....	S	1.37	34.8	Gloomy	
Agra	29.02	737.1	29.57	751.1	88.2	31.2	81	SW	.....	.....	.....	.....	10	.....	S	0	0	.....	
Nagpur	28.58	726.0	29.61	752.1	83.5	28.6	79	Calm	1.6	0.7	.....	.....	7	.....	NE	0.33	8.4	D. clouds	
Lucknow	29.27	743.4	29.64	752.8	88.2	31.2	76	E	2.3	1.0	.....	.....	9	NW	.....	0	0	D. clouds	
Allahabad	29.29	744.0	29.60	751.9	84.4	29.1	68	Calm	0.7	0.3	.....	.....	10	.....	.....	0	0	Drizzling	
Patna	29.46	748.2	29.64	752.8	82.3	27.9	84	E	0.5	0.2	.....	.....	10	E	E	0.53	13.5	Overcast	
Hazaribagh	27.63	701.9	29.63	752.5	79.0	26.4	81	ESE	4.6	2.1	.....	.....	10	.....	.....	1.11	28.2	Raining	
Cuttack	29.55	750.6	29.63	752.7	85.2	29.6	78	E	1.0	0.4	.....	.....	4	.....	.....	0.05	1.3	D. clouds	
Calcutta (Alipore)	29.64	752.8	29.66	753.3	82.0	28.1	85	S	2.0	0.9	.....	.....	9	S	.....	0	0	D. clouds	
Goalpara	29.28	713.8	29.67	753.6	80.3	26.8	80	WNW	1.7	0.8	.....	.....	5	.....	.....	1.98	50.3	D. clouds	
Chittagong	29.64	752.8	29.73	755.1	81.8	27.7	87	SSE	5.0	2.2	.....	.....	8	.....	.....	0	0	Misty	
Sibsagar	29.40	746.7	29.73	755.2	78.2	25.7	91	SW	2.6	1.2	.....	.....	10	W	W	1.69	42.9	D. clouds	
Jubbulpore	28.26	717.9	29.62	752.3	80.8	27.1	87	Calm	2.7	1.2	.....	.....	5	.....	N	0.32	8.1	D. clouds	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature. Inches.	BAROMETER. Corrected or instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Low'r. —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.62	752.4	30.02	762.4	81.[illegible]	27.[illegible]	49	SW	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	748.7	29.97	761.3	82.9	28.3	46	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.90	759.4	30.00	762.1	79.7	26.[illegible]	56	E	3.8	1.7	.....	.....	7	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.09	738.8	29.95	760.8	80.6	27.0	47	SW	2.5	1.1	.....	.....	1	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	757.8	30.02	762.5	76.1	24.[illegible]	71	SW	4.9	2.2	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	29.95	760.8	79.[illegible]	26.[illegible]	61	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.94	760.6	29.99	761.7	78.4	25.8	70	NE	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.75	755.7	30.00	762.0	82.4	28.0	45	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.94	760.4	30.02	762.5	79.[illegible]	26.[illegible]	65	WSW	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.3	29.98	761.6	86.2	30.1	43	W	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.73	755.2	29.98	761.4	81.1	27.8	47	NNW	15.0	6.7	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.2	29.94	760.5	89.2	31.8	59	NW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.83	757.6	30.01	762.3	84.2	29.0	57	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.76	755.8	30.00	762.0	80.4	26.9	63	NE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacolatore.
Syracuse	29.90	759.5	29.97	761.3	86.7	30.4	60	NNW	2.5	1.1	.....	.....	6	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.8	30.06	762.9	80.6	27.0	65	W	3.1	1.4	.....	.....	.....	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.89	759.2	81.6	27.6	75	SSW	6.6	2.9	.....	.....	7s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.89	759.2	79.8	26.6	85	SSW	3.9	1.8	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.93	760.2	30.00	762.0	77.3	25.2	73	S	6.2	2.7	.....	1cs	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.87	758.7	29.92	759.9	79.5	26.4	82	E	2.2	1.0	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	25.60	635.0	29.98	761.4	69.6	15.6	78	NE	.....	.....	1	.....	5	.....	SE	0.21	5.4	½ cloudy	P. Ceballos.
Guadalajara	24.39	619.4	30.02	762.5	62.1	16.7	80	E	.....	.....	4	1c	2k	NE	.....	0	0	Clear	Prof. L. Perez.
Leon	23.03	585.0	30.02	762.5	54.6	12.5	85	Calm	0	0	.....	2c	3k	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	.....	.....	.....	.....	61.3	16.3	83	NW	.....	.....	1	1c	1s	E	E	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	29.84	757.8	29.85	758.1	76.1	24.5	91	NW	.....	.....	2	5	7	W	NW	2.34	59.5	Clear	M. V. de Leon, M. E.
Tlacotalpam	24.19	614.3	30.11	764.6	60.4	15.8	53	E	.....	.....	1	.....	10	.....	E	0	0	Threatening	Prof. M. M. Chazaro.
San Luis Potosi	22.56	573.1	30.14	765.5	54.5	12.5	94	NE	.....	.....	1	.....	7n	.....	SE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	23.38	593.9	30.09	764.2	53.6	12.0	80	NW	0.4	0.2	.....	.....	9ck	.....	NE	0.09	2.5	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Nuñez.
Puebla (Catholic Institute)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Very cloudy
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Spina.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Mazatlan	29.56	750.8	29.85	758.1	78.4	25.8	91	N	.....	.....	1	3cs	2n	Calm	NW	0	0	½ Cloudy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column: the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.82	757.5	29.82	757.5	70.7	21.5	.....	SW	.....	.....	4	.....	.....	.....	.....	0.358	9.1	.....	
Groningen	29.80	757.0	29.86	758.4	.....	.....	.....	S	.....	.....	1	.....	.....	.....	.....	0.217	5.5	.....	
Helder	29.78	756.4	29.78	756.4	64.7	17.5	.....	SSE	.....	.....	2	.....	.....	.....	.....	0.268	6.8	.....	
Hellevoetsluis	29.81	757.1	29.81	757.1	71.1	21.8	77	S	.....	.....	3	.....	.....	.....	.....	0.240	6.1	.....	
Utrecht	29.80	756.9	29.85	758.1	66.4	19.1	92	S	.....	.....	3	.....	10	.....	.....	0.177	4.5	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.7	29.89	759.1	72.7	22.6	45	NW	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.96	761.0	30.00	762.0	68.6	14.8	77	N	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.82	757.4	29.96	761.0	72.5	22.5	53	SSW	7	3	.....	.....	7	.....	.....	0	0	.....	
Tromsö	30.01	762.2	30.05	763.3	52.0	11.6	55	NE	4	2	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.95?	760.8?	30.14?	765.6?	68.5	20.3	85	WNW	6.3	2.8	.....	.....	4	.....	.....	0.472	12.0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.4	29.91	759.7	61.0	32.8	27	WSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.02	762.5	30.11	764.7	73.5	22.9	64	SW	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.1	30.00	762.0	73.4	23.0	63	SW	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.94	760.5	30.03	762.7	72.0	22.2	75	WNW	9.8	4.4	.....	.....	3	.....	.....	0.071	1.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos Mossamedes, Lower Guinea	.....	.....	30.00	762.0	67.6	19.8	.....	WNW	.....	.....	3	.....	10	.....	WNW	1	WNW	Overcast	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd Island	.....	.....	30.02	762.4	81.7	27.6	.....	WSW	.....	.....	2	.....	6	.....	WSW	2	.....	D. clouds, 15 minutes rain-fall	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mocudonco, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes Macao, China	.....	.....	29.89	759.2	85.6	29.8	.....	SW	.....	.....	3	.....	0	.....	.....	1	.....	Blue sky	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.52	749.7	29.93	760.1	66.0	18.9	73	NNW	11	5	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.51	749.6	29.92	759.9	66.2	19.0	69	N	2	1	.....	.....	9	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.75	755.6	29.98	761.0	70.3	21.3	44	SE	2	1	.....	.....	5ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.95	760.6	29.96	761.0	68.0	20.0	67	W	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.92	734.6	29.53	750.1	65.5	18.6	76	E	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.61	752.0	29.68	753.8	70.7	21.5	63	SSW	9	4	.....	.....	5k	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	29.80	756.9	29.82	757.4	77.0	25.0	89	E	7	3	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.39	746.4	29.91	759.8	65.8	18.8	68	SE	7.8	3.5	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.42	747.3	29.62	752.3	72.9	22.7	71	ENE	22	10	.....	.....	8	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.86	758.5	29.88	759.0	62.8	17.1	63	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.30?	718.9?	29.93?	760.2?	90.1	32.3	37	Calm	0	0	.....	.....	4ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.82	757.3	29.73	755.2	81.7	29.8	30	NE	11	5	.....	.....	1s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.35	745.5	29.80	757.0	66.6	19.2	65	N	18	8	.....	.....	4	.....	.....	.....	.....	.....	Cand. Farjanow.
Kasan	29.60	749.3	29.76	755.9	68.0	20.0	55	NNW	2	1	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.65	727.8	29.60	751.7	55.8	13.2	94	E	13	6	.....	.....	10	.....	.....	.....	.....	Raining	Meteorological Obs.
Nukuss	29.43	747.4	29.64	752.9	91.9	33.3	27	NNE	11	5	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.13	714.4	29.58	751.3	87.8	31	65	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.17	740.8	29.65	753.1	60.6	15.9	62	W	0	0	.....	.....	6	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.19	741.5	29.47	748.6	53.6	12.0	89	W	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.58	751.3	29.72	754.9	74.7	23.7	69	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7n	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.58	751.2	29.67	753.7	67.3	19.6	94	ESE	11	5	.....	.....	.....	.....	.....	.....	.....	Heavy rain	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.83	757.7	29.93	760.3	83.1	28.4	69	SSW	3.6	1.58	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.87	758.8	29.93	760.2	85.5	29.7	57	NW	2.6	1.16	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.06	687.4	.....	.....	89.1	31.7	34	S	5.1	2.25	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.78	705.7	29.84	757.8	97.0	36.1	23	SW	7.4	3.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.81	757.2	29.95	760.8	94.4	34.1	52	NNE	3.8	1.69	.....	0	0	.....	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.00	736.6	29.86	758.5	72.5	22.6	72	SW	17.4	7.8	.....	6	2	.....	.....	.....	.....	.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.80	756.9	29.86	758.5	79.2	26.2	81	E	8.1	3.6	.....	10pc	1k	SE	SE	0.016	0.4	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.85	758.1	85.9	29.9	71	WSW	9.4	4.2	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.86	758.4	29.95	760.8	82.9	28.3	66	W	9.6	4.3	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.90	759.4	29.99	761.7	81.0	27.2	79	SE	5.4	2.41	.....	5ks	3k	SE	SE	0.335	8.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Haparanda	29.92	759.9	29.96	760.9	71.4	21.9	.....	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Umea	29.90	759.5	29.95	760.8	73.8	23.2	40	S	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	29.91	759.6	29.96	760.9	77.7	25.4	48	S	.....	.....	4	.....	2	.....	.....	0	0	.....	
Stockholm	29.81	757.2	29.99	761.7	70.9	21.6	38	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Wisby	29.88	759.0	29.94	760.5	63.7	17.6	80	NE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.89	759.1	29.97	761.3	71.6	22.0	46	NNW	4.7	2.1	.....	.....	4	.....	N	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	29.98	761.6	74.1	23.4	69	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.45	722.7	30.02	762.4	77.0	25.0	61	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.1 mm.; Thermometer, +2.0 Cent.; Relative Humidity, +4 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.8	78.4	25.8	39	N	8	3.5	.....	.....	2	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.3	65.1	29.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.66	753.4	29.77	756.1	89.4	31.9	54	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.80	756.9	29.85	758.2	68	14.4	76	NW	18	8.0	.....	10c	0	N	.....	2.76	70.1	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.63	752.6	29.68	753.9	67	13.9	97	N	18	8.0	.....	.....	10n	.....	.....	0.560	14.22	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.07	763.8	60.6	15.3	85	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.76	755.9	29.93	760.2	58	14.4	80	NW	.....	.....	2	0	7ks	.....	.....	0.40	10.2	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	29.99	761.7	51	10.6	93	SW	21	9.4	.....	5k	Haze	Calm	Calm	0.31	7.9	Clearing	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.93	760.2	60.1	15.6	71	NW	12	5.4	.....	10cs	0	.....	.....	Inap.	Inap.	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.95	735.3	29.76	755.9	59	10.0	93	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.01	736.8	30.08	764.0	65	18.3	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.63	752.6	29.75	755.6	57	13.9	85	NW	15	6.7	.....	.....	10n	.....	NW	0.040	1.02	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.78	756.4	30.14	765.5	60.7	15.9	84	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.78	756.1	30.10	764.5	67	19.4	87	SW	6	2.2	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.49	749.0	29.53	750.0	58.5	14.7	93	N	4	1.8	.....	8k	0	N	.....	0.87	22.1	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.92	760.0	30.12	765.0	55	12.8	97	W	3	1.3	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.41	747.0	30.09	764.3	63	17.2	83	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.38	746.2	30.10	764.5	66.7	19.3	94	E	.....	.....	1	2k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.43	747.5	30.12	765.0	58	14.4	94	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.57	751.1	29.62	752.3	52.5	11.4	.....	N	15	6.7	.....	0	0	.....	.....	0	0	Squally	Peter Grant.
Port Stanley, Ontario	29.47	748.5	30.10	764.5	59	15.0	97	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.78	756.4	30.10	764.5	52	11.1	93	W	.....	.....	1	0	2s	.....	W	0.03	0.8	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.66	753.4	30.12	765.0	53	11.7	97	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	59	15.0	53	NW	.....	.....	8	5k	5n	N	.....	0.86	21.8	Cloudy	Dr. Gove.
St. John, N. B	29.75	755.6	29.91	759.7	58	14.4	75	NW	13	5.8	.....	10k	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.06	763.6	63	17.2	76	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Toronto, Ontario	29.60	749.3	29.54	750.3	56	13.3	94	N	5	2.2	.....	.....	10n	.....	N	0.77	19.6	Cloudy	T. C. Hill.
Windsor, N. S	29.76	755.9	30.13	765.3	65	18.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Woodstock, Ontario	29.75	755.6	29.78	756.4	56.0	13.3	87	NW	9	4.0	.....	.....	10n	.....	.....	0.06	1.5	Fair	Prof. John E. Oram.
Sub-Series.	29.06	738.1	30.10	764.5	62.4	16.9	78	SW	1	0.4	.....	0	2ks	.....	.....	0	0	Clear	Prof. J. Montgomery.
St. Johns, Newfoundland	29.69	754.1	29.94	760.5	53.0	11.7	100	SE	.....	.....	.....	.....	10n	.....	.....	.....	.....	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 366 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.97	761.2	30.19	766.8	60	15.6	88	Calm	0	0	.....	1ck	2s	W	SW	0	0	Fair	
Alpena, Michigan	29.38	746.2	30.00	762.0	65	18.3	68	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	50	10.0	100	Calm	0	0	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	28.92	734.6	30.03	762.7	69	20.6	100	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	70	21.1	85	NW	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.00	759.4	30.10	764.5	80	26.7	82	SE	2	0.9	.....	0	5s	.....	SE	0	0	Fair	
Baltimore, Maryland	30.14	765.5	30.19	766 8	68	20.0	74	W	2	0.9	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.15	765.8	30.17	766.3	70	21.1	70	E	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	27.98	710.7	29.84	757.9	55	12.8	74	E	6	2.7	.....	5c	0	SE	.....	0	0	Fair	
Boerne, Texas	28.55	725.2	29.83	757.7	68	20.0	84	SW	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Boise City, Idaho	27.00	685.8	29.96	761.0	62	16.7	61	SE	5	2.2	.....	5k	Sm'e	Calm	Calm	Inap.	Inap.	Fair	
Boston, Massachusetts	30.01	762.2	30.16	766.1	62	16.7	67	W	5	2.2	.....	1ck	0	NW	.....	0	0	Clear	
Brackettville, Texas	28.84	732.5	29.83	757.7	72	22.2	80	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.78	729.7	29.68	753.9	59	15.0	94	NE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.86	758.4	29.90	759.4	75	23.9	95	Calm	0	0	.....	5k	0	E	.....	0	0	Fair	
Buffalo, New York	29.42	747.3	30.10	764.5	66	18.9	69	SW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	48	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.87	758.7	30.16	766.1	58	14.4	82	S	7	3.1	.....	0	0	.....	.....	0.06	1.5	Clear	
Cairo, Illinois	29.70	754.4	30.08	764.0	71	21.7	75	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Campo, California	27.31	693.7	29.88	758.9	46	7.8	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	74	23.3	76	NE	14	6.3	.....	0	1ks	.....	Calm	0	0	Clear	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	74	23.3	76	NE	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765 0	77	25.0	82	NE	26	11.6	.....	5k	0	E	.....	0.02	0.5	Fair	
Cape May, New Jersey	30.14	765.5	30.17	766.3	70	21.1	90	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.20	741.7	29.89	759.2	72	22.2	85	Calm	0	0	.....	2ck	0	SE	.....	0.03	0.8	Fair	
Charleston, South Carolina	30.01	762.2	30.07	763.8	83	28 3	83	E	8	3.6	.....	5k	0	NE	.....	0	0	Fair	
Charlotte, North Carolina	29.28	743.7	30.08	764 0	69	20.6	95	NE	4	1.8	.....	.....	10ks	.....	W	0.17	4.3	Cloudy	
Chattanooga, Tennessee	29.29	744.0	30.07	763.8	68	20.0	84	Calm	0	0	.....	2k	Sm'e	S	Calm	0	0	Fair	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	62	16.7	41	NW	4	1.8	.....	2c	2s	N	NW	0.04	1.0	Fair	
Chicago, Illinois	29.39	744.0	29.95	760.7	70	21.1	66	S	9	4.0	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.47	748 5	30.11	764.8	64	17.8	83	SE	2	0.9	.....	5c	Fog	W	Calm	0	0	Fair	
Cleveland, Ohio	29.39	746.5	30.10	764.5	62	16.7	77	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.20	716.3	29.81	757.2	69	20.6	56	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.28	743.7	30.10	764.5	64	17.8	73	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Concho, Texas	28.07	713.0	29.68	753.9	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	29.99	761.7	73	22 8	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.26	743.2	29.87	758.7	69	20.6	75	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.23	640.8	.....	.....	53	11.7	86	Calm	0	0	.....	0	0	.....	.....	0.40	10.2	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.17	740.9	29.93	760.2	72	22.2	80	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.77	629.2	29.99	761.7	68	20.0	38	S	6	2.7	.....	0	5ks	.....	Calm	Inap	nap.	Fair	
Des Moines, Iowa	28.90	734.0	29.72	754 9	72	22.2	80	SW	9	4.0	.....	2ck	2s	W	SW	0	0	Fair	
Detroit, Michigan	29.41	747.0	30.06	763.5	64	17.8	78	S	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.30	693.4	29.49	749.0	66	18.9	64	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.17	740.9	29.81	757.9	68	20.0	60	S	7	3.1	.....	Haze	Haze	S	Calm	0	0	Hazy	
Duluth, Minnesota	29.09	738 9	29.73	755.1	68	20.0	60	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Eagle Pass, Texas	29.18	741.1	29.88	758.9	74	23.3	86	SE	4	1.8	.....	0	5s	.....	S	0.07	1.8	Fair	
Eastport, Maine	29.88	758.9	29.94	760.5	59	15.0	76	NW	13	5.8	.....	5k	5s	N	N	0.38	9.7	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.18	665.0	.....	.....	61	16.1	50	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.40	746.7	30.10	764.5	67	19.4	64	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.26	743 2	29.88	758.9	67	19.4	79	S	11	4.9	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Florence, Arizona	28.32	719.3	29.92	760.0	79	26.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.70	703.6	29.46	748.3	57	13.9	63	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Custer	26.60	675.6	.....	.....	.....	.....	.....	N	.....	.....	1	0	5s	.....	Calm	0	0	Fair	
Fort Davis, Texas	25.20	640 1	30.16	766.1	63	17.2	78	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.95	760.7	76	24.4	73	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.15	638.8	29.95	760.7	78	25.6	54	E	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Fort Griffin, Texas	28.72	729.5	29.94	760.5	72	22.2	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.14	689.3	.....	.....	64	17.8	57	S	5	2.2	.....	2k	2ks	SW	Calm	0	0	Fair	
Fort McKavett, Texas	27.74	704.6	29.59	751.6	69	20 6	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.79	756.7	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.93	709.4	.....	.....	53	11.7	79	E	4	1.8	.....	2ck	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	66	18.9	59	NW	.....	.....	1	0	0	.....	.....	0.03	0.8	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.12	714.2	29.6	751.8	73	22.8	76	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.96	761.0	30.00	762.0	78	25.6	57	E	5	2.2	.....	2k	0	SE	.....	0	0	Clear	
Graham, Texas	28.88	733.5	29.90	759.4	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.35	745.5	29.97	761.2	70	21.1	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.99	736.3	29.99	759.2	70	21.1	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.30	744.2	30.06	763 5	67	19.4	69	Calm	0	0	.....	2c	Sm'e	Calm	Calm	0	0	Clear	
Jacksboro, Texas	29.97	761.2	29.99	761.7	80	26.7	66	SE	5	2.2	.....	0	1ks	.....	SE	0	0	Clear	
Jacksboro, Texas	28.83	732.3	29.91	759 7	74	23.3	68	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	82	27.8	81	SE	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.27	743.4	29.85	758 2	72	22.2	76	S	7	3.1	.....	0	0	.....	.....	0.20	5.1	Clear	
Key West, Florida	29.87	758.7	29.90	759.4	79	26.1	82	E	12	5.4	.....	.....	10s	.....	E	1.41	35.8	Threatening	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	71	21.7	80	NE	7	3.1	.....	5ck	Haze	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.11	739.6	30.10	764.5	69	20.6	82	NE	5	2.2	.....	0	2ks	.....	SW	0	0	Fair	
La Crosse, Wisconsin	29.09	738 9	29.79	756.7	65	18.9	84	S	6	2.7	.....	5k	2ks	Calm	Calm	0	0	Fair	
La Mesilla, New Mexico	26.02	660 9	30.16	766.1	59	15.0	48	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.50	749.3	29.82	757.4	78	25.6	76	SE	10	4.5	.....	.....	10ks	.....	SE	2.05	52.1	Cloudy	
Leavenworth, Kansas	29.01	736.8	29.81	757.2	74	23.3	76	S	12	5.4	.....	2ck	Haze	W	.....	0	0	Fair	
Little Rock, Arkansas	29.72	754.9	30.07	763.6	67	19.4	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.52	749.8	29.86	758 4	56.0	13.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.52	749.8	30.04	763.5	66	18.9	74	N	3	1.3	.....	2k	8s	Calm	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.51	749.3	30.10	766.1	72	22.2	71	N	1	0.4	.....	5ck	Haze	S	Calm	0	0	Fair	
Madison, Wisconsin	28.93	734.0	29.84	757.9	68	20.0	79	SE	12	5.4	.....	5c	0	W	.....	0	0	Fair	
Marquette, Michigan	29.15	740.4	29.82	757.4	67	19.4	74	SE	4	1.8	.....	5c	2s	SE	Calm	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.07	764.8	69	20.6	91	SE	3	1.3	.....	0	2s	.....	S	0	0	Fair	
Memphis, Tennessee	29.73	755.1	30.06	763.5	68	20.0	74	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.21	741 7	29.91	759.4	68	20.0	74	S	10	4.5	.....	1c	0	Calm	.....	Inap	Inap.	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	70	21 1	95	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.82	757.4	30.05	763.3	70	21.1	79	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer's.
Morgantown, West Virginia	29.15	740.4	30.12	765.0	61	16.1	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	28.93	607.8	30.29	769.4	35	1.7	90	NW	40	17.9	.....	5c	Fog	NW	NW	0.67	17.0	Fair	
Nashville, Tennessee	29.55	750.6	30.07	763.8	70	21.1	75	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut	30.08	764.0	30.20	767.1	64	17.8	78	NE	1	0.4	.....	2ck	0	Calm	.....	0	0	Clear	
New London, Connecticut	30.15	765.8	30.19	766.8	63	17.2	72	N	3	1.3	.....	7ck	0	NW	.....	0	0	Fair	
New Orleans, Louisiana	29.95	760.7	30.00	762.0	78	25.6	69	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.12	765.0	30.17	766.3	63	17.2	65	NW	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
New York, New York	30.03	762.7	30.20	767.1	68	20.0	69	E	6	3.6	.....	1ck	Haze	Calm	Calm	0	0	Clear	
Norfolk, Virginia	30.11	764.8	30.17	766.3	73	22.8	72	SE	2	0.9	.....	2ck	0	W	.....	0	0	Clear	
North Platte, Nebraska	29.88	682 7	29.87	744.5	65	18 3	73	S	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.82	757.4	29.86	758.4	57.1	14.2	94	S	2	0.9	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Omaha, Nebraska	28.57	725.7	29.59	751.6	74	23.3	68	S	11	4.9	.....	2c	0	NW	.....	0	0	Clear	
Oswego, New York	29.83	757.7	30.14	765.5	66	18.9	79	S	6	2.7	.....	5c	0	NW	.....	0	0	Fair	
Pembina, Dakota	28.90	734.0	29 72	754.9	45	7.2	92	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Philadelphia, Pa	30.13	765.3	30.18	766.6	67	19.4	79	NE	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.61	726.7	30.30	769.6	78	25.6	46	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.98	456.7	30.19	766.8	34	1.1	70	SW	16	7.2	.....	1k	0	Calm	.....	0.02	0.5	Clear	
Pilot Point, Texas	29.11	739.4	29.88	758.9	81	27.2	74	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.03	610.4	29.80	756.9	59	15.0	9	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.32	744.7	30.12	765.0	58	14.4	94	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.42	747.3	30.06	763.5	64	17.8	78	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.06	763.5	30.10	764.5	60	15.6	65	W	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Portland, Oregon	29.86	758.4	29.93	760.2	58.8	14.8	80	S	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.75	628.6	30.11	764.8	58	14.4	64	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.94	760.5	29.95	760.7	82	27.8	75	E	12	5.4	.....	5cs	0	SW	.....	0.04	1.0	Fair	
Red Bluff, California	29.49	749.0	29.84	757.9	67	19.4	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	76	24.4	91	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Fair	
Rochester, New York	29.62	749.8	30.12	765.0	65	18.3	68	SW	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Roseburg, Oregon	29.40	746.7	29.95	760.7	58	14.4	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.76	755.9	29.85	758.2	66	18.3	51	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	30.00	762.0	65	18.3	78	S	8	3.6	.....	0	0	.....	.....	0.07	1.8	Clear	
St. Marks, Florida	30.00	762.0	30.02	762.5	76	24.4	95	SE	6	2.7	.....	5ck	2s	Calm	SW	0	0	Fair	
St. Paul, Minnesota	28.97	735.8	29.76	755.9	67	19.4	90	W	3	1.8	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Salt Lake City, Utah	25.53	648 4	29.86	758.4	66	18.9	44	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.29	744.0	29.86	758.4	78	22.8	81	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
San Diego, California	29.80	756.9	29.87	758.7	65	18.3	89	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.43	747.5	30.08	764.0	66	18.9	74	S	7	3.1	.....	0	Sm'k	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	30.16	766.1	30.19	766.8	67	19.4	74	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.84	757.9	29.90	759.4	56	13.3	87	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	28.36	503.3	29.90	759.4	59	15.0	38	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.99	761.7	30.08	764.0	85	29.4	61	Calm	0	0	.....	2ck	Haze	S	Calm	0.15	3.8	Fair	
Shreveport, Louisiana	29.82	757.4	30.04	763.0	69	20.6	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.09	764.3	30.12	765.0	77	25.0	91	NE	7	3.1	.....	2cs	2ks	NW	NE	0.04	1.0	Fair	
Socorro, New Mexico	29.38	644.6	29.44	747.8	60	15.6	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Ill	29.34	745.2	29.99	761.7	67	19.4	74	S	12	5.4	.....	0	0	.....	.....	0.17	4.3	Clear	
Springfield, Massachusetts	30.08	764.0	30.21	767.3	61	16.1	82	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	29.91	683.5	29.91	759.7	71	21.7	11	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.12	765.0	30.17	766.3	58	14.4	82	NW	16	7.2	.....	0	0	.....	.....	0.04	1.0	Clear	
Toledo, Ohio	29.40	746.7	30.06	763.5	64	17.8	83	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.43	696.7	29.98	761.5	80	26.7	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.51	749.5	29.98	761.5	62.0	16.7	67	SW	18	8.0	.....	.....	10ks	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.06	738.1	29.84	757.9	75	23.9	77	E	6	2.7	.....	.....	10s	.....	SE	0.13	3.3	Cloudy	
Vicksburg, Mississippi	29.80	756.9	30.06	763.5	68	20.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	63	17.2	33	SE	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Visalia, California	29.46	748.3	29.82	757.4	64.5	17.6	65	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.06	763.5	30.17	766.3	69	20.6	75	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	77	25.0	86	NE	3	1.3	.....	5ck	0	Calm	.....	0.23	5.8	Fair	
Winnemucca, Nevada	29.67	649.5	29.93	760.2	59	15.0	43	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.12	765.0	30.16	766.1	63	17.2	67	NW	6	2.7	.....	Haze	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.87	720.6	29.68	761.3	70	21.1	80	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.60	751.8	29.75	755.6	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba. W. I	29.82	757.4	29.87	758.7	81	27.2	87	SE	1.2	0.5	.....	8c	0	E	.....	0.05	1.3	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.26	941.6	.....	.....	65.8	18.8	80	Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I	29.82	757.4	29.90	759.4	83	28.3	.....	SE	.....	.....	0	.....	10n	.....	.....	0.47	11.9	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	83	SE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Santiago de Cuba, W. I	29.91	759 7	29.93	760.2	79	26.1	86	Calm	0	0	2	0	5k	.....	.....	0	0	Fair	C. J. Hering.
St. Thomas, W. I	29.59	751.6	29.60	751.8	82	27.8	75	E	5	2.2	.....	2c	4k	NE	SE	.....	.....	.....	Robert Mason.
York Factory, B. A	29.70	754.4	29.75	755.6	53.0	11.7	97	E	17	7.6	.....	3c	2s	NE	.....	0.03	0.8	Clear	G. O. Gellich.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3c	2s	E	SE	0	0	Fair	J. Fortescue & W. Wood.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,260 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,132 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,490 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 3.57 in., or 65.3 mm.; Cheyenne, 6.94 in., or 150.9 mm.; Denver, 5.23 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96,in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Up'er. From—	CLOUDS. Direction. Low'r. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.40‡	772.1‡			77	25.0	77	N	5	2.2			0			0	0			Clear	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.98‡	761.5‡			76	24.4	84	Calm			0		28		Calm	0	0			Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.90‡	759.4‡			56	13.3	94	SSW			3		10							Cloudy	
Alaska, N. 25° 24′, W. 113° 41′...*.	29.77‡	756.1‡			74	23.3	90	WNW			1		0			0	0	Smooth		Blue sky	
Alliance, Copenhagen, Denmark	30.02‡	762.5‡			68	20.0	74	S			1		0†		S					Blue sky	
Ashuelot, Yokohama, Japan	29.99‡	761.7‡			79	26.1	82	SSW			2		2					Smooth		Clear	
Colorado. New York, N. Y.	30.07‡	763.8‡			69	20.6	75	NE	4	1.8			2			0	0			Clear	
Constellation. New Bedford, Mass.	30.14‡	765.5‡			61.5	16 4	71	NW			1		2		Calm	0	0			Clear	
Constitution. Navy Yard, Brooklyn, N.Y.	30.22‡	767.6‡			68	20.0	74	NE			3		1		Calm					Clear	
Enterprise, Cowes, England	29.69‡	754.1‡			64	17.8	94	SSW			4-7		10		SW			Mod'ate		Cloudy	
Essex, Rio de Janeiro, Brazil	30.29‡	769.4‡			69	20.6	95	Calm			0		8					Smooth		Cloudy	
Franklin. Norfolk, Va.	30.18‡	766.6‡			73	22.8	76	E					2			0	0			Fair	
Hartford. Rio de Janeiro, Brazil	30.28‡	769.1‡			71	21.7	66	Calm			0		5			0	0			Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.92‡	760.0‡			59	15.0	82	SSW	7.2	3.2			7		SSW					Cloudy	
Kearsarge, N. 46° 20′, W. 54° 16′	29.72‡	754.9‡			57	13.9	94	SE			4-6		8					Mod'ate	SE	Threatening	
Lackawana, Apia, Samoa Is.	29.9‡	759.4‡			78	25.6	93	E			2-5		10		E			Smooth		Raining	
Michigan, Chicago, Ill.	29.90‡	759.4‡			69	20.6	75	S			4		0							Clear.	
Monocacy. Shanghai, China	29.74‡	755.4‡			75	23.9	100	S			1		10		S					Rainy	
Monongahela, Hakodadi, Japan	30.01‡	762.2‡			69	20.6	65	SE			5		k			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.05‡	763.3‡			83	28.3	87	Calm	0	0			2		Calm	0.041	1.05			Fair	
Onward, Callao, Peru.	30.02‡	762.5‡			63	17.2	83	ESE			2		2					Long	W	Hazy	
Palos, Shanghai, China	29.76‡	755.9‡			76	24.4	91	SE			2		10							Rainy	
Passaic, Washington, D. C.	30.17‡	766.3‡			68	20.0	90	Calm			0		0							Clear	
Pensacola, S. 17° 00′, W. 72° 19′	30.12‡	765.0‡			63	17.2	83	E			4		10					Long	S	Cloudy	
Portsmouth. Portland, Maine	30.12‡	765.0‡			60	15.6	65	WNW			3		2		Calm			Smooth		Clear	
Powhatan, N. 26° 22′, W 79° 38′	30.00‡	762.0‡			83	28.3	79	ENE			4		8		E	0.25	6.3	Mod'ate	E	Cloudy	
Quinnebaug. Trieste, Austria	30.01‡	762.2‡			78	25.6	69	WNW			2		2		W					Fair	
Ranger, Nagasaki, Japan	30.11‡	764.8‡			85	29.4	87	SE			2		2		Calm			Smooth		Clear	
Richmond, Yokohama, Japan	29.99‡	761.7‡			79	26.1	86	S			2		2			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡			77	25.0	95	NNW			1		5		NNW	0	0			Cloudy	
Santee, Annapolis, Md.	30.18‡	766.6‡			71	21.7	75	N			0-1		0			0	0			Clear	
Saratoga, Newport, R. I.	30.17‡	766.3‡			63	17.2	89	N			1		2		Calm	0	0			D. clouds	
St. Louis, League Island, Pa	30.16‡	766.1‡			70	21.1	65	NE	9	4.0			2			0	0			Clear	
Trenton, Gravesend, Eng.	29.71‡	754.6‡			66	18.9	94	SW			2-4		10		S:W	0	0	Smooth		Squally	
Tuscarora, Mare Isl. Navy Yard, Cal.	29.90‡	759.4‡			57	13.9	94	SSW			3		10		Calm	0	0	Smooth		Hazy	
Vandalia, Navy Yard, Pensacola, Fla.	29.95‡	761.0‡			81	27.2	91	N			1		2		NE	0	0			Clear	
Wabash, Boston, Mass.	30.10‡	764.5‡			63	17.2	62	NW	6	2.7			2			0	0			Hazy	
Wachusett, New York City, N. Y.†	30.10‡	764.5‡			68	20.0	100	NNE			2		2		Calm					Fair	
Wyoming. Theodosia, Crimen Russia	29.73‡	755.1‡			65	18.3	84	S			1-2		8		S			Smooth	S	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'r	Low'r	Upper.	Lower		Character.	Direction from—		
											0—10.	0—10.	From—	From—					
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 8° 15′, W. 79° 37′	†..	29.90‡	761.0‡	80	26.7	96	W			1		4		Calm	0	Swell	W	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Cannon.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		30.39‡	771 9‡				SW			1				SW				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gradell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China	†..	29.91‡	759 7‡	84	28.9	91	SW			2		5cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 48° 11′, W. 160° 03′		30.06‡	763.3‡	55	12.8	93	SW			3		10n				4	SSW	Foggy	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 59′, W. 27° 30′		29.34‡	745.2‡	62.0	16.7	72	W			6		5		W	2 h'rs	Cross	W	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 35′, W. 11° 18′		29.67‡	751.1‡				NW			3		8		W		4	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.58‡	751.3‡	63	17.2	69	S			7		7		SW	0			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 27° 15′, W. 30° 45′		30.20‡	767.1‡	77.5	25.3	73	NE			2		1				3	ESE	Blue sky	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sundelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 21, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.04	763.0	70.2	21.2	82	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	29.89	759.3	84.0	28.9	82	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxnche.
Algiers	.....	.....	29.85	758.3	91.4	33.0	47	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.87	758.7	85.6	29.8	75	E	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.05	763.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tebessa	.....	.....	29.88	759.0	98.2	36.8	13	SW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Geriville	.....	.....	29.97	761.2	96.3	35.7	27	NE	.....	.....	3	.....	5	.....	.....	0.039	1.0	Cloudy	Watrin.
Laghouat	.....	.....	.....	.....	73.4	23.0	39	SSE	.....	.....	8	.....	0	.....	.....	0	0	Clear	Brugniaux.
Biskra	.....	.....	29.95	760.8	101.8	38.8	23	S	.....	.....	2	.....	2	.....	.....	0	0	Fair	Bertrand.
.....	.....	.....	29.91	759.6	104.0	40.0	23	Calm	.....	.....	0	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.48	748.9	30.01	762.2	78.8	26.0	60	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Orncow, I. R. Observatory	29.31	744.5	30.06	763.4	71.1	21.7	52	E	2.2	1.0	.....	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.16	740.6	30.00	762.0	72.9	22.7	57	Calm	.....	.....	0	.....	5c;s	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.80	731.6	30.01	762.2	72.0	22.2	76	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.59	726.3	29.98	761.5	70.1	21.2	60	NNW	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.64	727.6	29.92	759.9	76.6	24.7	81	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.02	737.2	29.98	761.4	69.8	20.7	66	NE	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.90	759.5	30.01	762.2	83.3	28.5	55	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.58	751.2	30.02	762.6	73.2	22.9	67	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.76	756.0	30.03	762.8	74.8	23.8	60	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.93	760.3	30.04	762.9	79.6	26.4	66	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.32	744.6	30.05	763.3	75.6	24.2	62	E	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.48	748.8	29.58	751.3	61.2	16.2	.....	SSE	11	4.9	.....	.....	10	.....	.....	0.022	0.56	Misty	W. Boswell.
Ardrossan	29.51	749.5	29.53	750.0	62	16.7	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.32	744.7	29.53	750.0	63.7	17.6	.....	S	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29 59	751.6	58.9	14.9	.....	ESE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.57	751.1	57.3	14.1	.....	SSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.22	742.2	29.61	752.1	58.0	14.4	.....	NW	.....	.....	1	.....	10	.....	.....	0.05	1.3	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.95	761.5	81.5	27.5	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.53	750.0	29.62	752.3	66.9	19.4	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Showery	H. Todd.
Cardington	.....	.....	29.62	752.3	72.0	22.2	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.53	750.0	29.66	753.4	67.8	19.9	.....	SE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper. R. E.
Donaghadee	29.50	749.3	29.54	750.3	62	16.7	.....	S	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.60	751.8	29.62	752.3	68	20.0	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.38	746.2	29.61	752.1	59.7	15.4	.....	S	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	75	23.9	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Raining	.....
Galway, Queen's College	.....	.....	29.42	747.3	63	17.2	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.89	759.2	29.94	760.5	80.6	27.0	.....	E	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.33	745.0	29.54	750.3	63.1	17.3	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [G.
Great Yarmouth	29 69	754.1	29.70	754.4	64	17.8	.....	SSW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.47	748.5	29.64	752.8	65.4	18.6	.....	.....	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.43	747.5	29.65	753.1	66	18.9	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.64	752.8	29.76	755.9	64	17.8	.....	S	.....	.....	4	.....	4k	.....	.....	0.36	9.1	Fine	M. P. Moyle.
Holyhead	29.57	751.1	29.58	751.3	63	17.2	.....	SSW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.41	747.0	29.70	754.4	66.1	18.9	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew, Observatory	29.59	751.6	29.63	752.6	66.0	18.9	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum	29.36	745.7	29.60	751.6	67.6	19.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.93	760.2	83.4	28.6	.....	NE	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.43	747.5	29.52	749.8	63	17.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.00	762.0	83.2	28.4	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.42	747.3	29.60	751.6	73.2	22.9	.....	S	.....	.....	5	.....	7c;ck	;ks;k;d	SW	0.006	0.15	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.08	738.6	29.56	751.3	68.1	20.1	.....	SSW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.62	752.3	67	19.4	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.56	750.8	29.63	752.6	60.0	15.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.45	748.0	29.56	750.8	65	18.3	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.43	747.5	29.59	751.6	60	15.6	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.57	751.1	58.8	14.9	.....	W	5	2.2	.....	.....	4	.....	.....	.....	.....	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.81	757.2	29.87	758.7	82.4	28.0	.....	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	2	.....	.....	.....	.....	0.45	11.4	Drizzling	W. F. Cooper.
Silloth Rectory	29.55	750.6	29.58	751.3	63.7	17.6	85	W	.....	.....	3	.....	4	.....	.....	0.264	6.45	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.61	752.1	59.9	15.5	.....	S	1	0.4	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	67.0	19.4	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.62	752.3	29.63	752.6	66	18.9	.....	S	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy	W.Newcombe.
Valencia, Observatory	29.40	746.7	29.43	747.5	60.9	16.1	.....	SSE	23	10.3	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.00	762.0	30.04	763.0	62.2	16.8	.....	NW	11.2	5.0	.....	10	7	.....	.....	0	0	Threatening	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.58	751.3	64.4	18.0	.....	SW	.....	.....	2	.....	10k	.....	.....	0.03	0.8	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	70.1	21.2	70	ESE	17.0	7.6	.....	1	2	.....	SE	0.23	5.8	Squally	C. Meldrum.
Melbourne, Observatory	30.15	765.8	30.24	768.1	52.6	11.4	77	NNE	4	1.8	.....	.....	2	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.48	748.8	.....	.....	.....	S	.....	.....	3	0	0	.....	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.88	657.3	.....	.....	75	23.9	.....	NW	.....	.....	.....	2c	2c	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00′ E. 28° 45′	.....	.....	29.901‡	759.4‡	76.2	24.6	.....	NNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt.W.J.L. Wharton.
Algeria, N. 50° 55′, W. 18° 10′	.....	.....	29.27	743.4	55	12.8	.....	WSW	.....	.....	2	.....	4	.....	.....	2	SW	D. clouds	Capt. Wm. Watson.
German Brig "W. von Freeden" N. 47° 20′, W. 26° 10′	.....	.....	29.64	752.8	62	16.7	.....	NW	.....	.....	6	.....	9	.....	.....	6	NW	Raining	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
San José	26.24	666.5	29.96	761.0	67.6	19.8	95	SE			1	8c;ck	Sm'e			0.3	8.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. corr. Inches	mm	Red. Inches	mm	Fahr.	Cent.	Hum. %	Wind From—	Miles p. h.	M. p. s.	Force	Clouds Up'er	Low'r	Upper From—	Lower From—	Rain Inches	mm	Weather	Observer
Copenhagen	29.84	757.8	29.88	759.0	64.4	18.0	86	S			2		5					Raining	
Fanöe	29.80	756.8	29.82	757.3	67.5	19.7	86	WSW			4		6						
Godthaab (Greenland)	29.71	754.6	29.75	755.7	48.4	9.1	87	NE			2		4						
Stykkisholm (Iceland)	29.62	752.4	29.67	753.5	55.0	12.8	77	SE			2		5						
Thorshavn (Faröe)	29.40	746.7	29.43	747.6	52.5	11.4	97	NE			2		10					Raining	
Vestervig	29.67	753.5	29.78	756.3	62.1	16.7	99	SSW			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. corr. Inches	mm	Red. Inches	mm	Fahr.	Cent.	Hum. %	Wind From—	Miles p. h.	M. p. s.	Force	Clouds Up'er	Low'r	Upper From—	Lower From—	Rain Inches	mm	Weather	Observer
Alençon, Normal School	29.17	740.8	29.72	754.8	74.6	23.8	78	S			1		10kn		S	0.024	0.6	Covered	Colligno n, Director.
Amiens, Normal School	29.72	754.8	29.82	757.4	83.8	28.8	72	E			6		5		NE	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.58	751.3	29.82	757.4	80.6	27.0	63	SE			3				SW	0	0		Klein, Commandant.
Avignon, Normal School	29.87	758.6	29.95	760.6	90.0	32.2	42	SW			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.18	741.2	29.70	754.4	84.7	29.3	51	SSE			3		2			0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.37	745.9	29.62	752.3	80.6	27	68	E			1		8		SW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.98	736.2	29.83	757.6	82.8	28.2	59	E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	28.97	735.9	29.90	759.5	86.0	30	53	S			3		5ck	N	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.12	739.7	29.64	752.8	83.3	28.5	60	SSE			1		kn		SSE	0	0		M. Gence, Director.
Brest, Naval Observatory	29.42	747.2	29.68	753.4	64.4	18.0	88	SW			1		8		SW	0.059	1.50		Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.44	747.7	29.83	757.7	78.4	25.8	69	ESE			3		5	ESE	ESE	0	0	Cloudy	September, Dir.
Caen, Normal School	29.55	750.6	29.59	751.5	73.4	23	68	SW			1		8		SW	0	0	Very cloudy	M. Bietrin, Director.
Chartres, Normal School	29.14	740.2	29.68	753.8	77.9	25.5	75	E			1		7		SSE	0.024	0.6		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.2	29.83	757.7	88.5	31.4	55	N			2		0					Clear	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.41	721.6	29.66	753.3	91.4	33.0	33	S			2		2		SW	0	0		Alluard, Director.
Commercy, Normal School	28.96	735.6	29.76	755.9	86.7	30.4	51	ESE			1		5cs	E	E	0	0	Cloudy	Dr. Coulet, Director
Commune de Gréasque*	28.89	733.8	30.03	762.8	93.4	34.1	29	S			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.20	741.7	29.92	760.0	86.0	30.0	61	E			1					0	0		Ablard, Director
La Roche-sur-Yon, N. School	29.58	751.4	29.79	756.7	75.0	23.9	75	NNW			1		5		W	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.37	746.0	29.67	753.5	78.0	22.8	76	W			1		5		W	0	0	Cloudy	Perrier, Director
Lons-Le-Saulnier, N. School	28.87	733.3	29.75	755.7	81.3	27.4	63	SW			1		2k	SW	SW	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.63	752.5	29.73	755.1	66.2	19.0	83	S			3				S	0.024	0.60		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.21	742.0	29.78	756.5	89.6	32.0	32	SSE			2	2c				0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.65	753.0	29.91	759.6	85.3	29.6	36	WNW			1		0			0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	28.82	732.1	29.81	757.1	82.0	27.8	53	S			1		1	S	S			Clear	Barbier, Director.
Mont-Louis	24.92	632.9	30.23	767.8	77.9	25.5	29	SW	35.3	15.8						0	0		M. Clave.
Nice	29.98	761.4	30.01	762.2	80.2	26.8	73	SE			1		1		SE	0	0	Clear	M. Boissieré, Director.
Niemes, Normal School	29.74	755.4	29.93	760.2	91.8	33.2	61	S			4		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.37	746.0	85.5	29.7	60	SE			2		4		SW	Inap.	Inap.		Marie Davy, Director.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.63	574.7			64.9	18.3		SW			5		10		SW	0.083	2.1	Threatening	Gen'l de Nansouty.
Perpignan	29.79	756.6	29.87	758.6	78.8	26.0	74	SE	29.8	13.3			0			0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.20	640.2			68.4	20.2	44	S			3		8			0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.74	755.4	29.98	761.6	73.4	23.0	77	WSW			2		10	WSW	WSW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.54	750.4	29.63	752.5	79.0	26.1	73	SSE			1		8		S	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.63	752.7	29.67	753.5	70.7	21.5	78	SW			2		8	SW	SW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.47	748.5	29.64	752.8	85.8	29.6	57	SE			3		1		SSW	0.008	0.2		E. Renou, Director.
Tarbes, Normal School	28.76	730.5	29.79	756.7	77.0	25	83	SW			1		2	W	SSW	0	0	Slightly cl'dy	T. Huguet, Director
Toulouse, Observatory	29.06	738.2	29.78	756.4	83.1	28.4	52	SSE			5		0			0	0		M. Julier Mercadier.
Tours	29.46	748.2	29.65	753.2	82.6	28.2	61	SSW			1		5		SSW	0	0	½ covered	Cousin-Marquet.
Versailles, Observatory	29.17	740.9	29.66	753.4	84.9	29.4	56	SW			1					0.003	0.07		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S.	29.12	739.6	29.78	756.3	90.5	32.5	33	SE			5		2		NW	0	0	Slightly cl'dy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	79.2	26.2										1.57	40.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.84	757.9	29.86	758.5	78.1	25.6	97	S	2.7	1.2			3k			0	0	Fair	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.2	29.95	760.6	77.7	25.4	68	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.78	756 4	29.94	760.5	81.1	27.3	62	S	.....	.....	3	.....	3	.....	.....	0.020	0.5	.....	Prof. Dr. Arndt.
Breslau	29.50	749.4	30 04	762.9	76.1	24.7	60	SE	.....	.....	1	.....	4	.....	.....	0	0	.....	Royal University Ob's'y.
Carlsruhe	29.40	746.8	29.80	756.9	87.8	31.0	50	ESE	.....	.....	0	.....	0	.....	.....	0	0	.....	Albert Senz.
Cassel	29.31	744.4	29.91	759.6	84.3	29.4	50	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.62	752.3	29.78	756.4	87.8	31.0	50	SE	.....	.....	5	.....	0	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.74	755.3	78.4	25.8	76	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.50	749.3	29.86	758.4	83.8	28.8	.....	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.50	723.9	29.87	758.8	72.7	22.6	78	SSW	.....	.....	2	.....	.....	.....	.....	0.260	6.6	.....	M. Wilhelm.
Hamburg	29.80	757.0	29.87	758.7	78.4	25.8	66	SW	.....	.....	3	.....	3k	.....	.....	0.126	3.2	.....	Captain F. Hegemann.
Kiel	29.82	757.5	29.84	757.9	76.1	24.5	73	SW	.....	.....	2	.....	5	.....	.....	0.040	1.02	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.95	760.7	30.03	762.7	69.8	21.0	58	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	..	.....	29 95	760.7	71.6	22.0	.....	S	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.53	750.0	29.93	760.1	84.2	29.0	49	SSW	.....	.....	2	.....	3	WSW	.....	0	0	.....	Prof. Bruhns, Privy Councilor.
Memel	29.96	761.0	30.01	762.2	67.1	19.5	65	NW	.....	.....	3	.....	3cs	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.17	715.5	30.03	762.8	80.4	26 9	48	NE	.....	.....	4	.....	0	.....	.....	0	0	Hazy.....	Dr. C. La g.
Neufahrwasser	30.01	762.2	30.02	762.6	66.7	19.3	74	E	.....	.....	2	.....	4	W	.....	0	0	.....	A. Lothes.
Posen	29.75	755.7	30.03	762.7	75.9	24.4	51	SE	.....	.....	5	.....	5	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.33	745.0	29.85	758.2	81.7	27.6	60	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.94	735.0	29.81	757.1	86.9	30.5	43	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.49	723.6	29.92	759.9	79.0	26.1	56	SE	9	4	.....	....	.....	.....	.....	0	0	.....	T. Hopfner.
Wustrow	29.87	758.7	29.90	759.4	77.4	25.2	74	SSE	.....	.....	3	.....	5ks	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.8	29.89	759.3	86.0	30.0	.....	NE	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.53	750.1	29.58	751.4	85.0	29.4	69	SW	21.0	9.4	.....	.....	7	SW	.....	0	0	D. clouds.....	
Deesa	29.20	741.7	29.67	753.7	80.8	27.	74	WSW	9.8	4 4	.....	.....	4	WSW	.....	0	0	D. clouds.....	
Bombay	29.71	754.7	29.75	755 6	79.7	26.5	87	W	17.0	7.6	.....	.....	10	.....	NW	0.27	6.9	Overcast.....	
Poona	27.90	708.5	29.76	755.8	74 8	23.8	77	W	19.0	8.5	.....	.....	9	.....	W	0.02	0.5	D. clouds.....	
Lahore	26.77	730.6	29.50	749.2	84.0	28.9	79	Calm	2.5	1.1	.....	.....	8	NE	E	1.27	32.3	Overcast.....	
Belgaum	27.25	692.0	29.81	757.2	69.1	20 6	96	W	11.0	4.9	.....	.....	10	W	W	0.13	3.3	Overcast.....	
Roorkee	28.65	727.7	29.55	750.4	77.4	25.0	98	Calm	2.8	1.2	.....	.....	9	.....	.....	0.71	18.0	Gloomy.....	
Agra	29.06	736.6	29.56	750.8	83.8	28.8	83	S	.....	.....	.....	.....	6	.....	S	0	0	.....	
Nagpur	28.61	726.7	29.65	753 0	79.7	26 5	85	NNW	3.3	1.5	.....	.....	9	.....	S	0	0	Gloomy.....	
Lucknow	29.24	742.7	29.61	752.2	80.3	26.8	89	E	4.0	1.8	.....	.....	10	.....	.....	1.12	28.4	Overcast.....	
Allahabad	29.32	744.7	29.63	752.6	77.1	25.1	96	Calm	0.7	0.3	.....	.....	10	.....	E	2.40	61.0	Raining	
Patna	29.45	747 9	29.63	752.5	81.5	27.5	86	Calm	0.8	0.4	.....	.....	8	Calm	Calm	1.44	36.6	D. clouds.....	
Hazaribagh	27.63	701.7	29.64	752.9	73.6	23.1	90	SE	5.7	2.6	.....	.....	10	.....	E	0.27	6.9	Thunder-storm..	
Cuttack	29.54	750.3	29.62	752.3	83.5	28.6	80	NNE	1.0	0.4	.....	.....	9	.....	.....	0.85	21.6	Rain and fog	
Calcutta (Alipore)	29.61	752.1	29.63	752.7	82.1	27.8	88	ESE	2.0	0.9	.....	.....	10	ESE	.....	0	0	Overcast.....	
Goalpara	29.28	743.6	29.67	753.5	78.5	25.8	81	E	5.1	2.3	.....	.....	9	.....	.....	0.46	11.7	D. clouds ...	
Chittagong	29.60	751.9	29.69	754.2	81.0	27.2	90	Calm	4.7	2.1	.....	.....	10	.....	.....	.....	.....	Raining	
Sibsagar	29.35	745.4	29.66	753.9	82.7	28.2	81	WSW	1.6	0.7	.....	.....	10	W	W	0	0	D. clouds.....	
Jubbulpore	28.28	718.3	29.64	752.9	76.3	24.6	93	NW	2.7	1.2	.....	.....	10	.....	NW	.....	.....	Drizzling.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	Velocity.		Force.	CLOUDS. Amount.		Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. —10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.03	752.5	30.02	762.5	83.7	28.7	32	S	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.50	749.2	29.99	761.8	85.5	29.7	49	E	.....	.....	4	.....	3	NE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.90	759.5	30.01	762.2	81.9	27.7	56	E	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	29.98	761.6	82.2	27.9	51	WSW	1.8	0.8	.....	.....	6	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.4	30.00	762.1	81.1	27.3	61	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.15	715.1	29.98	761.5	79.7	26.5	52	NW	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.00	762.1	79.3	26.3	69	E	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.72	754.8	29.97	761.2	89.6	32.0	36	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.92	759.9	30.00	762.0	77.9	25.5	70	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.81	757.1	29.98	761.4	90.0	32.2	39	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.70	754.4	29.95	760.7	80.2	26.8	38	NW	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.09	738.8	29.93	760.2	88.9	31.6	59	NNW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	756.8	29.98	761.5	82.8	28.2	63	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.3	29.98	761.5	79.5	26.4	66	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.7	29.95	760.6	86.9	30.5	59	SE	8.7	3.9	.....	.....	2	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.5	30.02	762.6	89.2	31.8	42	NW	0	0	.....	.....	.....	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.4 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.97	761.2	79.3	26.3	78	SW	1.8	0.6	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.96	761 0	77.5	25.3	88	SW	0 7	0.3	.....	.....	0	.....	.....	0.010	0.25	Clear	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.96	761.0	30.03	762.7	76 2	24.6	82	SSW	10.2	4.6	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.93	760.2	29.97	761.2	80.0	26.7	75	SSE	1.1	0.5	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.97	634.1	29.93	760.3	69.9	15.5	80	NW	.....	.....	2	.....	8	.....	E	0.12	3.6	Cloudy	Prof. L. Perez.
Leon	24.35	618.4	29.95	760.6	63.9	17.7	84	NW	.....	.....	1	2c	1k	NW	.....	Inap.	Inap.	Clear	Prof. M. Leal.
Mexico, Central Obs'y	22.95	583.0	29.95	760.7	55.4	13.0	90	Calm	0	0	.....	6c	1k	.....	.....	0.008	0.2	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	61.5	16.4	87	SW	.....	.....	1	2c	2s	.....	.....	0.19	4.8	Fair	M. V. de Leon, M. E!
Tlacotalpam	29.78	756.4	29.79	756.7	77.1	25 0	93	W	.....	.....	1	.....	10	.....	NW	2.37	60.2	Raining	Prof. M. M. Cházaro.
San Luis Potosí	24.13	612.9	30.04	763.1	60.4	15.8	56	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel!
Zacatecas	22.54	572.6	30.10	764.5	55.9	13.3	95	E	.....	.....	3	.....	10n	.....	E	Inap	Inap.	Foggy	A. Nuñez.
Puebla (Catholic Institute)	23.33	592.5	30.08	764.0	62.5	11.4	75	NE	0.2	0 1	.....	4c	.....	SE	.....	0.04	1.0	Fair	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.52	749.7	29.80	756.9	79.2	26.2	90	SW	.....	.....	3	.....	9n	.....	NW	0.27	6.8	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosí, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.70	754.3	29.70	754.3	79.3	26.3	.....	E	.....	.....	3	.....	.....	.....	.....	0.059	1.5	.....	
Groningen	29.74	755.3	29.79	756.7	76.5	24.7	.....	S	.....	.....	1	.....	.....	.....	.....	0.197	5.0	.....	
Helder	29.74	755.4	29.74	755.4	68.9	20.5	.....	SW	.....	.....	2	.....	.....	.....	.....	0.028	0.7	.....	
Hellevoetsluis	29.74	755.5	29.74	755.5	77.1	25.1	85	E	.....	.....	3	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	29.72	754.9	29.77	756.1	81.1	27.3	67	SE	.....	.....	2	.....	2	.....	.....	0.004	0.1	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.59	751.6	29.65	753.0	62.2	16.8	90	Calm	0	0	.....	.....	10	.....	.....	0.512	13.0	.....	
Brönö	29.70	754.3	29.74	755.3	64.4	18.0	69	N	9	4	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.68	753.9	29.82	757.5	65.3	18.5	72	SSE	7	3	.....	.....	10	.....	.....	0.012	0.3	.....	
Tromsö	29.87	758.7	29.91	759.8	52.0	11.1	57	NNE	11	5	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.89	759.1	30.08	763.9	70.9	21.6	68	W	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.11	764.8	72.7	22.6	55	W	6.9	3.1	.....	.....	9	W	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	29.98	761.5	30.07	763.7	75.4	24.1	79	SW	8.7	3.9	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.66	753.3	30.01	762.3	67.6	19.8	80	NW	8.7	3.9	.....	.....	10	.....	.....	0.008	0.2	.....	The Staff.
Ponta Delgada (Azores)	30.04	763.1	30.13	765.3	78.8	26.0	49	WNW	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.98	761.5	68.0	20.0	.....	NW	.....	.....	1	.....	6	.....	NW	1	NW	D. clouds....	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.	.....	.....	29.99	761.8	82 8	28.2	.....	SSW	.....	.....	3	.....	7	.....	SSW	2	.....	D. clouds....	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	
Tejo, Capt. J. M. T. Guimarães. Macao, China	.....	.....	29.94	760.5	86.9	30.5	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.62	752.3	30.03	762.7	71.2	21.8	58	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.60	751.7	30.00	762.0	70.0	21.1	60	NW	2	1	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.77	756.1	30.00	762.0	71.6	22.0	61	ENE	2	1	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.95	760.6	29.96	761.0	68.2	20.1	61	WNW	7	3	.....	.....	6kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.21	741.8	29.82	757.4	68.2	20.1	66	N	9	4	.....	.....	9k;cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.7	29.78	756.5	70.6	21.1	70	NNW	13	6	.....	.....	9n	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.72	754.8	29.74	755.3	70.2	21.2	64	WSW	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Lagorio.
Moscow	29.42	747.2	29.95	760.6	68.7	20.4	61	W	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.46	748.2	29.66	753.3	69.1	20.6	77	ENE	9	4	.....	.....	5	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.92	760.0	29.94	760.5	52.5	11.6	72	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.22	716.7	29.53	750.0	87.3	30.7	42	NW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.78	756.5	29.79	756.4	74.5	23.6	45	E	13	6	.....	.....	7s	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.44	747.7	29.89	759.2	70.7	21.5	47	N	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.56	750.9	29.82	757.4	72.7	22.6	44	WNW	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.75	730.3	29.69	754.2	58.6	14.8	72	N	4	2	.....	.....	9ck;	cks;n]...	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.27	743.4	29.48	748.8	99.5	37.5	24	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.13	714.5	29.58	751.4	87.1	30.6	54	NNW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.19	741.3	29.67	753.5	63.1	17.3	45	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.44	747.7	29.72	754.9	48.9	9.4	88	W	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.60	751.9	29.74	755.5	75.6	24.2	89	SW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.74	755.3	29.84	757.8	64.6	17.8	91	SE	7.8	3.5	.....	2c	.....	.....	.....	.....	.....	Thunder-storm?	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.76	755.9	29.86	758.5	80.1	26.7	77	ENE	5.8	2.61	.....	.....	1	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.81	757.2	29.87	758.6	76.8	24.9	66	NW	2.7	1.23	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.01	686.0	.....	.....	76.1	24.5	32	SW	6.0	2.69	.....	0	7	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.72	704.1	29.82	757.3	85.8	29.9	27	SW	16.4	7.33	.....	0	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	29.71	754.6	29.85	758.2	90.1	32.3	47	S	2.5	1.11	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.0	29.85	758.1	68.9	20.5	77	SW	11.9	5.3	.....	0	5	.....	.....	0.480	12.2	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.85	758.3	29.92	760.0	81.0	27.2	80	E	6.3	2.8	.....	10pc	6k;n	Calm	SSE	0.012	0.3	Raining.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.89	759.1	84.4	29.1	82	WNW	4.6	2.0	.....	.....	.....	.....	.....	0	0	Fair.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.1	29.98	761.5	75.4	24.1	67	WNW	3.7	1.7	.....	0	9	.....	SW	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762 1	80.6	27.0	85	SE	2.5	1.10	.....	5k	3k	SE	SE	0.138	3 50	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.6 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.96	761.0	30.00	762.0	60.8	16.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	29.89	759.2	29.94	760.5	67.3	19.6	69	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.82	757.3	29.87	758.6	73.0	22.8	62	S	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.78	756.4	29.96	760.9	71.6	22.0	47	S	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.90	759.4	29.96	760.9	65.5	18.6	75	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.85	758.1	29.93	760.3	72.7	22.6	44	SSW	11.4	5.1	.....	.....	5	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	724.3	29.88	759.0	75.6	24.2	64	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.32	719.3	29.80	758.5	83.5	28.6	61	E	.....	.....	1	.....	0	.....	.....	0.024	0.6	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.5 mm.; Thermometer, +3.0 Cent.; Relative Humidity, +8 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.8	75.7	24.3	40	NNW	9	4.0	.....	.....	1	.....	NNW	0.031	0.8	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.1	83.3	28.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.62	752.3	29.73	755.1	89.6	32.0	54	WSW	.....	.....	3	.....	3s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.91	759.7	29.97	761.2	57	13.9	87	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. A. Bain.
Charlottetown, P. E. Island	29.91	759.7	29.96	761.0	61	16.1	81	W	7	3.1	.....	0	0	.....	.....	0.030	0.76	Clear	H. J. Cundall, C. E
Cornwall, Ontario	29.76	755.9	29.95	760.7	61.5	16.4	94	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.80	756.9	29.96	761.0	63	17.2	78	W	.....	.....	2	0	5s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	51	10.6	93	SW	15	6.7	.....	5c	Haze	Calm	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.04	763.0	59.0	15.0	82	NW	8	3.6	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.96	735.6	29.77	756.1	55	12.8	90	SW	5	2.2	.....	2ck	5ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.89	733.8	29.94	760.5	65	18.3	59	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.90	759.4	30.03	762.7	59	15.0	74	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.00	762.0	68.1	20.1	85	W	.....	.....	2	9ck	0	W	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.64	752.8	29.96	761.0	67	19.4	88	SW	9	4.0	.....	8cs	2ks	Calm	SW	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	66.0	18.9	74	SW	4	1.8	.....	5ck	0	SW	.....	0.06	1.5	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.81	757.2	30.00	762.0	62	16.7	83	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.91	759.7	67	19.4	79	S	8	3.6	.....	5k	5ks	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.24	742.7	29.97	761.2	65.2	18.4	81	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.33	745.0	29.99	761.7	68	20.0	95	SW	5	2.2	.....	10k	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.82	760.0	29.97	761.2	60.0	15.6	.....	N	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.36	745.7	29.98	761.5	69	20.6	95	SW	1	0.4	.....	.....	8ks	.....	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.72	754.9	30.04	763.0	57	13.9	87	Calm	.....	.....	0	.....	2s	.....	Calm	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.51	749.5	29.96	761.0	61	16.1	97	Calm	0	0	.....	.....	10s	.....	SE	0.29	7.4	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	58	14.4	81	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.86	758.4	30.02	762.5	59	15.0	88	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.24	742.7	29.93	760.2	64	17.8	97	S	6	2.7	.....	.....	10ks	.....	W	0.22	5.6	Heavy rain	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.90	759.4	29.94	760.5	64	17.8	68	W	4	1.8	.....	8c	0	.....	.....	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario	29.61	752.1	29.98	761.5	65	18.3	87	SE	2	0.9	.....	.....	10n	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.95	760.7	29.97	761.2	64.5	18.1	81	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock, Ontario	28.94	735.1	29.96	761.0	68.9	20.5	80	S	15	6.7	.....	10cs	0	SW	.....	0.07	1.8	Cloudy	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.91	759.7	52.0	11.1	86	NE	.....	.....	.....	10k	10s	.....	.....	0.48	12.2	Showery	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.89	759.2	30.11	764 8	67	19.4	79	S	5	2.2	.....	8k	Haze	W	.....	Inap	Inap.	Fair	
Alpena, Michigan	29.21	741.9	29.83	757.7	67	19.4	89	S	8	3.6	.....	.....	8s	.....	Calm	0.22	5 6	Cloudy	
Atcha, Aleutian Is , Alaska	.....	.....	.....	.....	51	10.6	100	SE	13	5.8	.....	.....	10n	.....	SE	0.22	5.6	Light rain	
Atlanta, Georgia	28.96	735.6	30.08	764.0	67	19.4	94	E	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.17	766.3	70	21.1	95	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.96	761.0	30.15	765.8	75	23.9	81	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Baltimore, Maryland	30.12	765.0	30.16	766.1	69	20.6	85	S	6	2.7	.....	5ck;k	Haze	SW	Calm	0	0	Fair	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	72	22.2	85	SW	10	4.5	.....	2k	Haze	SW	Calm	0	0	Clear	
Bismarck, Dakota	27.96	710.2	29.82	757.4	61	16.1	94	NW	2	0.9	.....	5c	0	Calm	.....	2.50	63.5	Fair	
Boerne, Texas	28.59	723.9	29.77	756.1	68	20.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.93	684.0	29.89	759 2	63	17.2	42	SE	5	2.2	.....	8cs	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.96	761.0	30.11	764.8	70	21.1	75	W	6	2.7	.....	1c	Haze	Calm	Calm	0	0	Clear	
Brackettville, Texas	28.80	731.5	29.80	756.9	66	18.9	69	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.60	726.4	29.54	750.3	62	16.7	94	SW	4	1.8	.....	0	5ks	.....	Calm	0.58	14.7	Fair	
Brownsville, Texas	29.80	756.9	29.84	757.9	76	24.4	91	Calm	0	0	.....	0	0	.....	.....	0.23	5.8	Clear	
Buffalo, New York	29.31	744.5	29.98	761 5	70	21.1	75	SW	2	0.9	.....	5ck	5s	SW	SW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	70	21.1	75	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.76	755.9	30.04	763.0	65	18.3	84	S	5	2.2	.....	2ck	5ks	W	W	0	0	Fair	
Cairo, Illinois	29.66	753.4	30.03	762.7	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.33	694.2	29.90	759.4	39	3.9	64	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	76	24.4	86	NE	9	4.0	.....	Haze	2ks	.....	NE	0	0	Hazy	
Cape Henry, Virginia	30.15	765.8	30.17	766 3	73	22.8	81	SW	6	2.7	.....	5ck	0	W	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.11	764.8	30.12	765.0	80	26.7	78	E	8	3.6	.....	5ck	2s	Calm	E	0	0	Threatening	
Cape May, New Jersey	30.14	765.5	30.17	766.3	70	21.1	90	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.15	740.4	29.82	757 4	74	23.3	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.05	763 3	30.10	764.5	79	26.1	82	NE	4	1.8	.....	0	5s	.....	N	1.05	26.7	Fair	
Charlotte, North Carolina	29.20	744.0	30.08	764.0	70	21.1	95	E	5	2.2	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Chattanooga, Tennessee	29.31	744.5	30.09	764.3	72	22.2	85	SE	4	1.8	.....	8ck	0	S	.....	0	0	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	49	9.4	64	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.20	741.7	29.85	758.2	73	22.8	72	SW	9	4.0	.....	5ck	0	SW	.....	0	0	Fair	
Cincinnati, Ohio	29.40	746.7	30.03	762.7	68	20.0	84	SE	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.30	744.2	30.00	762.0	66	18.9	69	S	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Coleman City, Texas	28.15	715.0	29.74	755.4	71	21.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.19	741.4	30.00	762.0	65	18.3	84	S	1	0.4	.....	2c	Fog	Calm	Calm	0	0	Fair	
Concho, Texas	28.03	711.9	29.62	752.3	77	25.0	69	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.47	748.5	29.92	760.0	70	21.1	66	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.21	741.9	29.81	757.2	74	23.3	76	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.30	642.6	.....	.....	51	10.6	79	Calm	0	0	.....	0	0	.....	.....	0.09	2.3	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.14	740.1	29.90	759.4	72	22.2	71	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.78	629.4	30.00	762.0	58	14.4	42	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.88	733.5	29.70	754.4	74	23.3	72	S	8	3.6	.....	5cs	0	W	.....	0	0	Fair	
Detroit, Michigan	29.31	744.5	29.95	760.7	67	19.4	74	S	4	1.8	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
Dodge City, Kansas	27.29	693.2	29.45	748.0	72	22.2	62	SW	16	7.2	.....	5ck	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.09	738.9	29.74	755.4	76	24.4	73	S	7	3.1	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Duluth, Minnesota	29.08	738.6	29.71	754.6	67	19.4	89	SW	8	3.6	.....	.....	10n	.....	SW	0.06	1.5	Thunder-storm	
Eagle Pass, Texas	29.13	739.9	29.83	757.7	75	23.9	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.97	761.2	30.04	763.0	60	15.6	77	NW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.15	664.2	.....	.....	67	19.4	60	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.30	744.2	29.99	761.7	69	20.6	70	S	8	3.6	.....	5c	Haze	Calm	Calm	0	0	Fair	
Escanaba, Michigan	29.15	740.4	29.77	756.1	65	18.3	84	Calm	0	0	.....	.....	10s	.....	SW	0.56	14.2	Cloudy	
Florence, Arizona	28.30	718.8	29.90	759.4	86	30.0	42	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.72	704.1	29.48	748.8	58	14.4	81	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Custer	26.72	678.7	.....	.....	.....	.....	.....	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	64	17.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.39	746.5	29.90	759.4	76	24.4	64	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	74	23.3	36	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.92	760.0	70	21.1	75	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.25	692.1	.....	.....	63	17.2	57	N	5	2.2	.....	5cs	0	NW	.....	0	0	Fair	
Fort McKavett, Texas	27.70	703.6	29.54	750.3	71	21.7	80	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.76	755.9	73	22.8	63	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.94	709.7	.....	.....	60	15.6	94	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	64	17.8	48	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.06	712.7	29.52	749 8	78	25.6	73	S	2	0.9	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.84	758.2	29.93	760.2	76	24.4	77	NE	8	3.6	.....	0	5ks	.....	E	0	0	Fair	
Graham, Texas	28.81	731.8	29.81	757.2	72	22.2	90	Calm	0	0	.....	8k	0	E	.....	0	0	Cloudy	
Grand Haven, Michigan	29.26	743 2	29.87	758.7	71	21.7	85	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.96	735.6	29.86	758.4	68	20.0	84	S	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.32	742.2	29.97	761.2	71	21.7	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.89	759.2	29.92	760.0	81	27.2	74	E	8	3.6	.....	0	1ks	.....	E	0	0	Clear	
Jacksboro, Texas	28.81	731.8	29.89	759.2	73	22.8	59	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.03	762.7	30.05	763.3	84	28.9	71	E	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.23	742.4	29.80	756.9	76	24.4	73	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.91	759.7	29.94	760.5	83	28.3	75	SE	8	3.6	.....	5cs	0	E	.....	0.02	0.5	Fair	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	72	22.2	90	E	8	3.6	.....	2c	Haz	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.13	739.9	30.10	764.5	71.5	21.9	85	SW	2	0.9	.....	0	5ks	.....	SW	0	0	Fair	
La Crosse, Wisconsin	28.98	736.1	29.67	753.6	70	21.1	90	S	2	0.9	.....	5cs	2ks	Calm	SW	0.15	3.8	Fair	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	62	16.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.47	748 5	29.79	756.7	78	25.6	61	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.95	735.1	29.77	756.1	74	23.3	76	S	10	4.5	.....	1ck	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.67	753 6	30.02	762.5	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.50	749.5	29.84	757.9	56.0	13.3	81	N	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.47	748.5	30.01	762.2	70	21.1	75	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.49	749.0	30.14	765.5	74	23.3	90	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Madison, Wisconsin	28.81	731.8	29.74	755.4	73	22.8	85	S	10	4.5	.....	2cs	0	W	.....	Inap.	Inap.	Fair	
Marquette, Michigan	29.06	738.1	29.73	755.1	68	20.0	60	SW	12	5.4	.....	5k	0	SW	.....	0.03	0.8	Fair	
Mason, Texas	28.32	719.3	30.02	762.5	69	20.6	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.70	754.4	30.03	762.7	71	21.7	75	SE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.09	738.9	29.77	756.1	74	23.3	76	SW	16	7.2	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Mobile, Alabama	29.93	760.2	29.97	761.2	76	24.4	92	NE	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Montgomery, Alabama	29.82	757.4	30.05	763.3	75	23.9	88	E	6	2.7	.....	8k	0	E	.....	0	0	Fair	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.09	738.9	30.04	763.0	69	20.6	85	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Fair	J. B. Gordon.
Mt. Washington, N. H.	24.00	609.6	30.36	771.1	44	6.7	75	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Nashville, Tennessee	29.62	749.8	30.04	763.0	73	22.8	76	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	Chas. Hasselbrink.
New Haven, Connecticut	30.08	762.7	30.14	765.5	73	22.8	72	SW	3	1.3	.....	2c	Haze	Calm	Calm	0	0	Clear.	
New London, Connecticut	30.11	764.8	30.16	766.1	72	22.2	73	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.	James Gall.
New Orleans, Louisiana	29.88	758.9	29.94	760.5	82	27.8	79	E	6	2.7	.....	2c	5s	SE	SE	0	0	Fair.	
Newport, Rhode Island	30.09	764.3	30.14	765.5	67.5	19.7	82	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	Thomas Herran.
New York, New York	30.00	762.0	30.17	766.3	63	17.2	100	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Norfolk, Virginia	30.10	764.5	30.16	766.1	73	22.8	81	SE	4	1.8	.....	2c	0	NW	.....	0	0	Fair	F. M. Everett.
North Platte, Nebraska	26.91	683.5	29.38	746.2	58	14.4	70	W	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.54	750.3	29.58	751.3	60.0	15.6	94	S	4	1.8	.....	.....	10n	.....	S	0.75	19.1	Light rain	O. J. Hering.
Omaha, Nebraska	28.67	725.7	29.59	751.6	74	23.3	72	S	14	6.3	.....	5k	5s	S	Calm	0.03	0.8	Cloudy	
Oswego, New York	29.71	754.6	30.02	762.5	68	20.0	84	S	6	2.7	.....	10c	0	NW	.....	0	0	Cloudy	Robert Mason.
Pembina, Dakota	28.87	733.3	29.68	753.9	53	11.7	93	Calm	0	0	.....	2c	5s	S	Calm	0	0	Cloudy	
Philadelphia, Pa	30.10	764.5	30.15	765.8	66	18.9	95	SW	6	2.7	.....	.....	10ks;fg	.....	SW;Calm	0.02	0.5	Cloudy	G. O. Gellich.
Phœnix, Arizona	28.58	725.9	30.27	768.5	78	25.6	39	W	1	0.4	.....	0	2ks	.....	S	0	0	Fair	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	34	1.1	43	N	8	3.6	.....	1k	0	N	.....	Inap	Inap.	Clear	J. Fortescue & W. Wood.
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Picche, Nevada	24.01	609.8	29.78	756.4	53	11.7	19	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.24	742.7	30.03	762.7	65	18.3	84	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.30	744.2	29.94	760.5	68	20.0	79	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Portland, Maine	30.04	763.0	30.09	764.3	63	17.2	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.61	752.1	29.68	753.9	62.0	16.7	94	S	8	3.6	.....	.....	10n	.....	S	0.36	9.7	Light rain	
Prescott, Arizona	24.73	628.1	30.09	764.3	61	16.1	40	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.93	760.2	29.94	760.5	78	25.6	82	E	14	6.3	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Red Bluff, California	29.44	747.8	29.78	756.4	67	19.4	55	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Rio Grande City, Texas	29.60	751.1	29.90	759.4	76	24.4	91	Calm	0	0	.....	0	5s	.....	E	0.03	0.8	Fair	
Rochester, New York	29.42	747.3	30.01	762.2	68	20.0	79	SW	6	2.7	.....	9cs	0	SW	.....	0	0	Cloudy	
Roseburg, Oregon	29.20	741.7	29.75	755.6	59	15.0	94	NE	4	1.8	.....	.....	10n	.....	Calm	0.30	7.6	Light rain	
Sacramento, California	29.74	755.4	29.83	757.7	57	13.9	81	S	7	3.1	.....	5c	0	Calm	.....	0	0	Fair	
St. Louis, Missouri	29.39	746.5	29.94	760.5	70	21.1	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.00	762.0	30.02	762.5	76	24.4	91	E	4	1.8	.....	.....	9s	.....	SE	0	0	Cloudy	
St. Paul, Minnesota	28.77	730.7	29.53	750.0	72	22.2	85	SE	11	4.9	.....	6cr	0	Calm	.....	0.12	3.0	Fair	
Salt Lake City, Utah	25.61	647.9	29.84	757.9	66	18.9	23	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.24	742.7	29.80	756.9	74	23.3	95	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.78	756.4	29.86	758.4	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.33	745.0	29.98	761.5	69	20.6	70	SW	11	4.9	.....	8c	2s	NE	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.14	765.5	30.17	766.3	65	18.3	94	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
San Francisco, California	29.81	757.2	29.88	758.9	56	13.3	94	W	12	5.4	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	61	16.1	41	NE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Savannah, Georgia	30.12	765.0	30.11	764.8	81	27.2	83	NE	2	0.9	.....	1c	0	Calm	.....	0.11	2.8	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	68	20.0	79	Calm	0	0	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.11	764.8	30.14	765.5	80	26.7	87	E	7	3.1	.....	6ck	2ks	W	E	0	0	Cloudy	
Socorro, New Mexico	25.35	643.9	29.42	747.3	68	20.0	56	Calm	0	0	.....	2ck	2s	W	Calm	0	0	Fair	
Springfield, Ill	29.27	743.4	29.91	759.7	72	22.2	71	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.00	762.0	30.13	765.3	68	20.0	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	29.92	759.8	29.92	760.0	72	22.2	.....	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.08	764.0	30.14	765.5	68	17.2	89	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.32	744.7	29.97	761.2	68	20.0	70	SW	8	3.6	.....	8cs	Sm'e	SW	.....	0	0	Cloudy	
Tucson, Arizona	27.40	696.0	29.95	760.7	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.30	744.2	29.76	755.9	67.0	19.4	50	E	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.00	736.6	29.78	756.4	74	23.3	81	E	1	0.4	.....	2k	1s	E	E	0	0	Fair	
Vicksburg, Mississippi	29.74	755.4	29.99	761.7	73	22.8	85	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.19	614.4	29.67	753.6	53	11.7	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.43	747.6	29.79	756.7	62	16.7	56	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.03	762.7	30.14	765.5	73	22.8	72	S	10	4.5	.....	1k	0	SW	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.01	762.0	30.12	765.0	78	25.6	86	NE	5	2.2	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	52	11.1	41	SW	6	2.7	.....	4c	0	Calm	.....	0	0	Fair	
Wood's Holl, Mass.	30.06	764.0	30.12	765.0	67	19.4	79	SW	16	7.2	.....	Haze	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.46	721.3	29.62	752.3	66	18.9	84	N	5	2.2	.....	5k	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.55	750.6	29.71	754.6	74	23.3	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.85	758.2	29.90	759.4	82	27.8	78	SE	2.4	1.1	.....	8c	4ks	Calm	SE	0.02	0.5	Cloudy	
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	81	27.2	91	E	9	4.0	.....	8c	2cs	.....	.....	0.02	0.5	Raining	
Medellin, Colombia, S. A.	25.27	641.8	.....	.....	65.0	18.3	85	Calm	.....	.....	0	.....	10n	.....	.....	0.92	23.5	...	
Navassa, W. I.	29.85	758.4	29.94	760.5	83	28.3	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	83	SE	.....	.....	2	4c	5k	E	.....	0	0	Fair	
Santiago de Cuba, W. I.	29.95	760.7	29.98	761.5	80	26.7	82	Calm	0	0	.....	4c	2k	.....	.....	Blank	Blank	.....	
St. Thomas, W. I.	29.62	752.3	29.93	752.6	83	28.3	83	E	4	1.8	.....	2c	2n	E	.....	0.03	0.8	Light rain	
York Factory, B. A.	29.79	756.7	29.84	757.9	51.0	10.6	96	SE	12	5.4	.....	2k	0	NE	.....	0	0	Fair	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?); Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Mill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,490 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.30‡	769.6‡	.....	.....	80	26.7	87	ENE	10	4.6	.....	.....	8	.....	E	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	30.03‡	762.7‡	.....	.....	77	25.0	82	SW	.....	.....	4	.....	0	.....	.....	Slight	Slight	.....	.....	Clear	
Adams, Mare I'd, Navy Yard, Cal.	29.80‡	759.2‡	.....	.....	60	15.6	100	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Alaska, N. 25° 00′, W. 112° 35′	29.79‡	756.7‡	.....	.....	75	23.9	90	NW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Alliance, N. 57° 23′, E 8° 10′	29.75‡	755.6‡	.....	.....	62	16.7	100	WSW	.....	.....	3	.....	9	.....	W	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	30.04‡	763.0‡	.....	.....	78	25.6	91	SSW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Colorado, New York, N. Y.	30.01‡	762.2‡	.....	.....	69	20.6	75	SSE	1.5	0.7	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Constellation, Buzzard Bay, Mass.	30.12‡	765.0‡	.....	.....	66	18.9	92	WSW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Navy Yard, Brooklyn, N.Y.	30.20‡	767.1‡	.....	.....	68	20.0	84	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Foggy	
Enterprise, Cowes, England	29.48‡	753.9‡	.....	.....	66	18.9	94	S	.....	.....	3	.....	10	.....	SSW	.....	.....	Mod'ate	.....	Cloudy	
Essex, Rio de Janeiro, Brazil	30.20‡	767.1‡	.....	.....	70	21.1	95	NW	.....	.....	1	.....	5?	.....	.....	.....	.....	Smooth	.....	Clear?	
Franklin, Norfolk, Va.	30.17‡	766.3‡	.....	.....	74	23.3	81	SE	.....	.....	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Hartford Rio de Janeiro, Brazil	30.17‡	766.3‡	.....	.....	75	23.9	64	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	.....	Fair	
Independence, Mare I'd. Navy Yard, Cal.	29.87‡	758.7‡	.....	.....	61	16.1	88	W	1.2	0.5	.....	.....	2	.....	SSW	.....	.....	.....	.....	Clear	
Kearsarge, N. 47° 21′, W. 52° 40′	29.81‡	757.2‡	.....	.....	54	12.2	80	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	Long	NNE	Hazy	
Lackawana, Apia, Samoa Is. †	29.90‡	759.4‡	.....	.....	75	23.9	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Raining	
Michigan, Chicago, Ill.	29.81‡	757.2‡	.....	.....	71	21.7	80	SW	.....	.....	6	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	29.87‡	758.7‡	.....	.....	84	28.9	75	SE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Showery	
Monongahela, Hakodadi, Japan	29.84‡	757.9‡	.....	.....	78	25.6	73	SW	.....	.....	3-4	.....	n	.....	.....	Light	Light	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.10‡	764.5‡	.....	.....	80	26.7	87	NE	13	5.8	.....	.....	2	.....	WNW	0.01	0.3	.....	.....	Fair	
Onward, Callao, Peru †	30.04‡	763.0‡	.....	.....	64	17.8	89	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Long	W	Hazy	
Palos, Shanghai, China	29.86‡	758.4‡	.....	.....	80	26.7	66	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	30.15‡	765.8‡	.....	.....	72	22.2	80	SW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 18° 33′, W. 70° 42′	30.09‡	764.3‡	.....	.....	65	18.3	78	.....	.....	.....	2	.....	0	.....	.....	.....	.....	Long	S	Clear	
Portsmouth, Portland, Maine	30.11‡	764.8‡	.....	.....	62	16.7	77	E	.....	.....	1	.....	2	.....	SE	0	0	Smooth	.....	Clear	
Powhattan, N. 31° 21′, W 79° 56′	30.06‡	764.0‡	.....	.....	82	27.8	79	NNE	.....	.....	2	.....	5	.....	Calm	0	0	Mod'ate	SE	Fair	
Quinnebaug, Venice, Italy	30.01‡	762.2‡	.....	.....	81	27.2	66	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 33° 49′, E 131° 33′ §	29.96‡	761.0‡	.....	.....	82	27.8	87	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Richmond, Yokohama, Japan	30.03‡	762.7‡	.....	.....	80	26.7	82	S	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.83‡	757.7‡	.....	.....	76	24.4	100	NNW	.....	.....	1	.....	2	.....	Calm	0.22	5.6	.....	.....	Fair	
Santee, Annapolis, Md.	30.15‡	765.8‡	.....	.....	72	22.2	76	SW	.....	.....	3	.....	2	.....	SW	0	0	.....	.....	Clear	
Saratoga, Newport, R. I.	30.15‡	765.8‡	.....	.....	67	19.4	100	SW	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Misty	
St. Louis, League Island, Pa	30.16‡	766.1‡	.....	.....	65	18.3	100	SW	4	1.8	.....	.....	10	.....	SW	0	0	.....	.....	Foggy	
Trenton, Gravesend, Eng.	29.66‡	753.9‡	.....	.....	67	19.4	89	SSE	.....	.....	0-1	.....	10	.....	Calm	.....	.....	Smooth	.....	Showery	
Tuscarora, Mare Isl. Navy Yard, Cal.	29.65‡	758.9‡	.....	.....	58	14.4	94	W	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	D. clouds	
Vandalia, Navy Yard, Pensacola, Fla.	29.99‡	761.7‡	.....	.....	82	27.8	83	NE	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	30.05‡	763.3‡	.....	.....	76	24.4	77	SW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Wachusett, New York Bay, N. Y. †	30.11‡	764.8‡	.....	.....	67	19.4	89	SW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Foggy	
Wyoming, Yalta, Crimea, Russia	29.69‡	754.1‡	.....	.....	67	19.4	79	ESE	.....	.....	3	.....	8	.....	ESE	.....	.....	Long	ESE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, Panama Bay, Panama.†		29.96‡	761.0‡	80	26.7	82	SSE			3		4		SSE	0.06 in. or 1.5 mm	Small	SSE	Showery	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connon.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Fort Jackson, N. S. W., Australia.		30.36‡	770.9‡				Var.			1		10		SW				Overcast	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Parry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China.....†		29.87‡	758.7‡	86	29.4	87	W			2		7cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			
S. S. Oceanic, Capt. J. Metcalf, N. 47° 41′, W. 158° 37′		29.96‡	761.0‡	52	11.1	100	N			4		9n				3	SW	Misty	J. A. Thompson, C. O.
																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 47′, W. 31° 29′		29.62‡	752.3‡	62.0	16.7	74	W			6		5		W	1 h'r	Cross	W	Cloudy†	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 54′, W. 5° 12′		29.63‡	752.6‡				SE			3		8		SW		3	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.	.....	29.65‡	753.1‡	56	13.3	94	WNW	.....	.....	3	.....	4	.....	WNW	0	.....	.....	Fair	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
S. S. Pennsylvania..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Powell, 4th Officer.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
Schooner Charley Buck.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Champlin.
Brigantine "George of Halifax", ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Schooner Harry and Fred.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner.
§Iron Cross, N. 29° 20', W. 31° 26'.	.....	30.20‡	767.1‡	76.5	24.7	79	ENE	.....	.....	2	.....	1	.....	.....	.....	4	N;88E	Blue sky.....	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

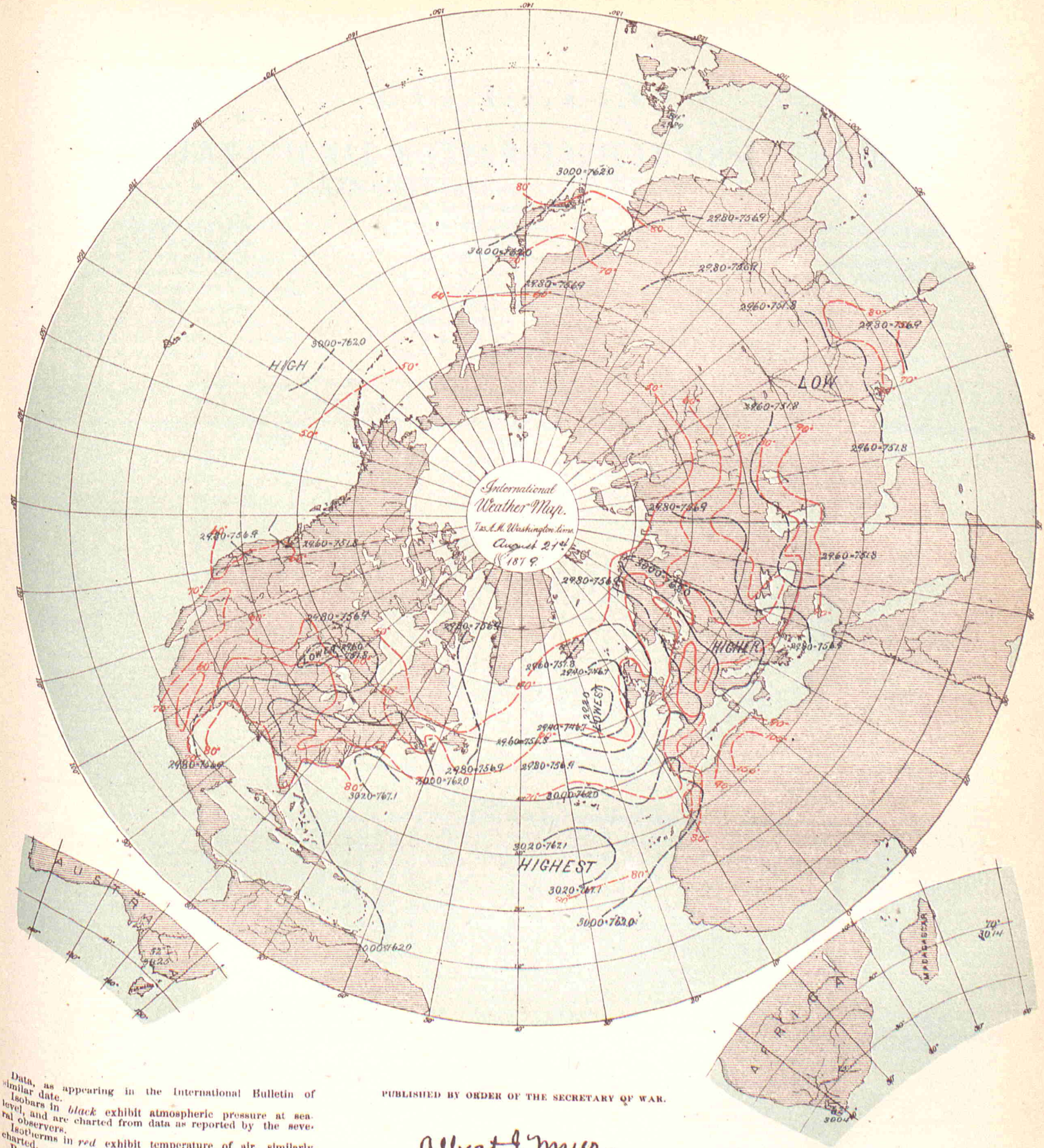
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
0:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	68.9	20.5	83	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	29.90	761.0	82.9	28.3	65	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.95	760.6	85.3	29.6	63	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Touriliere.
La Calle	.....	.....	29.91	759.8	85.8	29.9	74	NNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.06	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gan.
Saida	.....	.....	29.84	760.5	95.9	35.5	15	SW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.00	761.9	99.9	37.7	16	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	.....	.....	72.0	22.2	35	SSE	.....	.....	3	.....	2	.....	.....	0.079	2.0	Fair	Brugnlaux.
Laghouat	.....	.....	29.97	761.2	101.8	38.8	23	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	29.93	760.3	104.0	40.0	23	Calm	.....	.....	0	.....	6	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.43	747.6	29.96	760.9	79.3	26.3	49	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.26	743.1	29.99	761.8	76.6	24.8	58	E	3.4	1.5	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.13	740.0	29.98	761.4	73.9	23.3	64	SE	.....	.....	3	.....	1s	.....	W	0	0	.....	
Gratz	28.75	730.2	29.95	760.7	72.5	22.5	69	SSW	.....	.....	2	.....	2	.....	.....	0	0	.....	Julius Mikolik.
Hermannstadt	28.57	725 7	29.92	760.0	79.5	26.4	59	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	28.60	726.5	29.87	758.6	79.9	26.6	81	WNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Lemberg	29.06	738.2	30.02	762.5	70.3	21.3	70	SE	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. C. Wagner.
Pola	29.85	758.2	29.99	760.9	82.9	28.3	62	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Szathmar	29.61	752.2	30.07	763.7	76 3	24.6	53	S	.....	.....	1	.....	3	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szegedin	29.72	754.8	29.98	761.6	78.8	26.0	57	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Pet Pancsics.
Trieste	29.68	758.9	29.98	761.5	80.6	27.0	67	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Vienna	29.25	742.9	29.97	761.2	78.8	26.0	59	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	P. Busin.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.26	743.2	29.35	745.5	58.0	14.4	.....	S	16	7.2	.....	.....	7	.....	.....	0.050	1.27	Misty	W. Boswell.
Ardrossan	29.31	744.5	29.33	745.0	58	14.4	.....	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory	29.16	740.7	29.38	746.2	56.8	13.8	.....	SW	10	4.5	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.52	749.6	58.2	14.6	.....	SSW	31	13 9	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.51	749.5	58.8	14.9	.....	SW	18	8.0	.....	.....	8	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.14	740.1	29.54	750.3	60.2	15.7	.....	SW	.....	.....	4	.....	4	.....	.....	0.29	7.4	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	83	28.3	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.58	751.3	29.67	753.6	68.0	20.0	.....	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	Showery	H. Todd.
Cardington	.....	.....	29.66	753.4	68.0	20.0	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.63	752.6	29.73	755.9	67.0	19.4	.....	S	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.31	745.2	29.38	746.2	58	14.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.50	756.9	29.82	757.4	63	17.2	.....	SW	.....	.....	5	.....	2	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.52	749.8	29.75	755.6	62.7	17.1	.....	S	.....	.....	6	.....	7	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	76	24.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.48	748.8	60	15.6	.....	WSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.59	759.2	29.94	760.5	52.9	28.3	.....	W	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.14	740.1	29.35	745.5	59.9	15.5	.....	SSW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.70	754.4	29.71	754.6	68	20.0	.....	SW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.58	751.3	29.75	755.6	67.0	19.4	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.61	752.1	29.82	757.4	64	17.8	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.78	756.4	29.90	759.4	64	17.8	.....	SW	.....	.....	6	.....	3ck	.....	.....	.....	.....	Showery	M. P. Moyle.
Holyhead	29.52	749.8	29.53	750.0	60	15.6	.....	SW	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.61	752.1	29.89	759.2	65.2	18.4	.....	WSW	.....	.....	4	.....	3	.....	.....	Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	29.69	754.1	29.73	755.1	65.7	18.7	.....	SW	28	12.5	.....	.....	5	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester, Museum	29.37	746.0	29.62	752.3	65.8	18.8	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.95	760.7	86.0	30.0	.....	NW	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.17	740.9	29.26	743.2	62	16.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.98	761.5	83.5	28.6	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.43	747.5	29.62	752.3	66.0	18.9	.....	SW	.....	.....	4	.....	7ck;d	.....	SW	0.17	4.37	D. clouds	E. J. Lowe, F.R. S.
Oscott, St. Mary's College	29.09	738.9	29.60	751.8	63.9	17.7	.....	SW	.....	.....	7	.....	2	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.70	754.4	63	17.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.68	753.9	29.75	755.6	63.9	17.7	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.52	749.8	29.64	752.8	62	16.7	.....	WSW	.....	.....	5	.....	8	.....	.....	Blank	Blank	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.48	748.8	29.64	752.8	60	15.6	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Showery	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.27	743.4	60	15.6	.....	SW	3	1.3	.....	.....	10	.....	.....	.....	.....	Overcast	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.93	760.2	29.99	761.7	84.2	29.0	.....	NE	.....	.....	2	.....	2	.....	.....	Blank	Blank	D. clouds	Serg't.W. H.Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	5	.....	.....	.....	.....	0.30	7.6	Overcast	W. F. Cooper.
Silloth Rectory	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	7	.....	3	.....	.....	0.113	2.87	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.40	746.7	29.48	747.5	62.3	16.8	78	S	25	11.2	.....	.....	10	.....	.....	Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	29.51	749.5	60.3	15.7	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.77	756.1	29.78	756.4	67	19.4	.....	SW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.54	750.3	29.57	751.1	60.8	16.0	.....	WSW	25	11.2	.....	.....	5	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.10	764.5	30.14	765.5	62.4	16.9	.....	NW	4.4	2.0	.....	0	2	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.37	746.0	60.8	16.0	.....	SW	.....	.....	3	.....	10k	.....	.....	1.10	27.9	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.99	761.7	30.18	766.5	70.6	21.4	66	SE	24.0	10.7	.....	0	6	.....	SE	0.01	0.3	Squally	C. Meldrum.
Melbourne, Observatory	30.14	765.5	30.23	767.8	54.8	12.7	75	NW	10	4.5	.....	.....	3	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.33	745.0	.....	.....	.....	NW	.....	.....	3	5	5	NW	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.80	655.3	.....	.....	75	23.9	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00′ E. 28° 35′	.....	.....	30.021	762.64	75.2	24.0	.....	NNE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt.W.J.L. Wharton.
Algeria, N. 51° 25′, W. 9° 35′	.....	.....	29.59	751.6	59	15.0	.....	WSW	.....	.....	4	.....	3	.....	.....	3	SW	D. clouds	Capt. Wm. Watson.
German Brig "W. von Freeden" N. 48° 15′, W. 24° 15′	.....	.....	29.50	749.3	59	15.0	.....	ESE	.....	.....	5	.....	10	.....	.....	3	con-fused	Drizzling	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.

‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	68.0	20 0	93	NE	.....	.....	1	2ck	6s;d	.....	.....	0.4	10	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at followin g midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	755.8	29.80	757.0	74.5	23.6	73	S	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Faröe	29.80	756.8	29.82	757 3	65.7	18.7	79	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.62	752.3	29.66	753.4	.....	.....	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.42	747.2	29.46	748.3	53.6	12.0	79	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.17	741.0	29.21	741.9	56.5	13.6	79	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.64	752.5	29.74	755.3	64.6	18.1	91	SSW	.....	.....	6	.....	2	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.41	747.1	29.97	761.1	70.5	21.4	53	SW	.....	.....	1	.....	8k	.....	SW	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.80	756.9	29.91	759.6	72.0	22.2	64	S	.....	.....	6	.....	8	.....	NE	0.16	4.	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.65	753.0	29.89	759 3	69.6	20.9	50	SW	.....	.....	2	.....	.....	.....	W	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.86	758.5	29.94	760.5	78.8	26	69	W	.....	.....	2	.....	2	.....	SW	0.138	3.5	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.44	747.7	29.98	761.4	72.3	22.4	57	W	.....	.....	1	.....	5	.....	.....	0.134	3.4	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.65	753.2	29.91	759.7	72.5	22.5	54	SW	.....	.....	2	.....	8	.....	WSW	0.246	6.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.16	740.7	30.03	762.7	72.5	22.6	74	S	.....	.....	1	.....	2	S	.....	0	0	Slightlycl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	739.9	30.00	763.5	71.6	22	83	SW	.....	.....	1	.....	10n	SW	S'	.....	.....	Raining	Marlot, Director.
Bourges, Normal School	29.41	747.0	29.94	760.5	71.6	22	74	SSW	.....	.....	2	.....	kn	.....	SSW	0.146	3.7	.....	M. Gence, Director.
Brest, Naval Observatory	29.59	751.6	29.84	757.8	69.8	21.0	71	SW	.....	.....	3	.....	4	.....	SW	0.207	5.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.54	750.4	29.94	760.4	81.0	27.2	52	W	.....	.....	1	.....	0	.....	.....	0.051	1.3	Clear	September, Dir.
Caen, Normal School	29.77	756.2	29.85	758.1	71.6	22	56	SW	.....	.....	5	.....	2	.....	SW	0	0	Slightlycl'dy	M. Bletrin, Director.
Chartres, Normal School	29.32	744.7	29.85	758.2	83.7	28.7	54	W	.....	.....	1	.....	4	.....	W	0.098	2.5	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.66	753.4	29.97	761.3	72.9	22.7	63	N	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.67	728.1	29.06	761.0	75.0	23.9	75	N	.....	.....	1	.....	10	.....	.....	0 236	6.0	.....	Allnard, Director.
Commercy, Normal School	29.14	740.2	29.98	761.4	70.9	21.6	77	W	.....	.....	1	.....	10kn	W	W	0.295	7.5	Covered	Dr. Coulet, Director
Commune de Gréasque[4]	28.87	734.2	30.01	762.2	87.8	31	27	SE	.....	.....	3	.....	8	SW	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.28	743.8	30.02	762.5	77.0	25.0	67	W	.....	.....	2	.....	.....	.....	W	.....	.....	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.87	758.7	30.08	764.0	69.6	20.9	65	WSW	.....	.....	5	.....	5	.....	WSW	0	0	Fair	Mouillot, Director.
Le Mans, Normal School	29.66	753.3	29.96	760.9	68.7	20.4	59	SW	.....	.....	5	.....	5	.....	SW	0	0	Cloudy	Pourrier, Director.
Lons-Le-Saulnier, N.School	29.10	739.2	29.99	761.7	73.4	23	74	SW	.....	.....	1	.....	10	SW	SW	0.04	1.	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.84	757.8	29.94	760.4	67.3	19.6	79	SW	.....	.....	6	.....	.....	.....	SW	0.256	6.50	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.35	745.5	29.94	760.5	75.6	24.2	63	NE	.....	.....	1	.....	8	.....	WSW	0.322	8.2	Very cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.03	752.6	29.89	759.3	84.4	29.1	47	WNW	.....	.....	1	.....	5	.....	SW	Inap.	Inap.	.....	E. Stephan, Director
Mirecourt, Normal School	28.87	733.2	29.87	758.7	69,6	20.9	85	SW	.....	.....	1	.....	8ks	W	W	.....	.....	Very cloudy	Barbier, Director
Mont-Louis	24.92	633 0	30.24	768.0	66.2	19.0	81	E	20.6	9.2	.....	.....	10	.....	E	.....	.....	Raining	[illegible] Cave
Nice	29.91	759.6	29.94	760.5	80.6	27.0	58	ESE	.....	.....	2	.....	5	SE	ESE	0	0	Cloudy	M. Boisslerê, Director.
Nismes, Normal School	29.71	754.5	29.90	759.4	88.2	31.2	64	S	.....	.....	1	.....	5	.....	S	0.138	3.5	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.68	753 8	70.3	21.3	56	SW	.....	.....	3	.....	6	.....	WSW	Inap.	Inap.	.....	Marie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.63	574.7	.....	.....	56.8	13.8	.....	SW	.....	.....	1	.....	1	.....	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.84	757.8	29.94	760.4	78.3	25.7	63	SE	5.6	2.5	.....	.....	4	.....	SW	0.020	0.5	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.24	641.2	.....	.....	55.0	12.8	100	W	.....	.....	1	.....	.....	.....	.....	0.276	7.0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.98	761.6	30.02	762.4	74.5	23.6	58	WSW	.....	.....	2	.....	2	WSW	WSW	0	0	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.4	29.84	758.5	72.7	22.6	52	SW	.....	.....	2	.....	5	.....	SW	0.024	0.6	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.8	29.87	758.6	69.6	20.9	62	SW	.....	.....	6	.....	5	SSW	SSW	0	0.	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.79	756.7	29.96	761.0	72.1	22.3	61	SW	.....	.....	3	.....	7	.....	SW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.07	738.4	30.12	765.0	73.4	23	74	W	.....	.....	2	.....	10	.....	.....	0.12	3.	Covered	T. Hugnet, Director.
Toulouse, Observatory	29.32	744.8	30.05	763.2	73.0	22.8	68	NW	.....	.....	3	.....	9	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.77	756.2	29.97	761.2	74.7	23.7	50	WNW	.....	.....	1	.....	2	.....	W	0	0	¼ covered	Cousin-Marquet.
Versailles, Observatory	29.47	748.5	29.96	761.0	71.6	22.0	48	WSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.26	743.1	29.95	760.6	74.3	23.5	83	NW	.....	.....	1	.....	8	.....	SE	0.35	9.	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.79	756.6	29.82	757.3	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.85	758.3	29.88	758,9	79.7	26.5	93	SE	6.7	3 0	.....	.....	2k	.....	.....	0.012	0.3	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 6:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,536.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.315 inches has been added. [4]Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	739.8	29.97	761.2	74.1	23.4	65	NW	.....	.....	4	.....	7	.....	.....	0.120	3.2	.....	Prof. Dr. Hoh.
Berlin	29.71	754.7	29.87	758.8	63.3	28.5	50	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.42	747.2	29.95	760.6	80.8	27.1	50	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Royal University Ob'y.
Carlsruhe	29.55	750.5	29.96	761.0	72.7	22.6	81	SSE	.....	.....	0	.....	10	SW	.....	0.748	19.0	.....	Albert Senz.
Cassel	29.33	745.0	29.94	760.4	80.2	26.8	53	SSE	.....	.....	2	.....	7	S	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.72	754.8	29.88	758.9	78.8	26.0	47	SW	.....	.....	5	.....	6k;cs	.....	.....	0.12	3.	.....	Director Lose.
Emden	.....	.....	29.83	757.6	71.4	21.9	71	WSW	.....	.....	5	.....	1	.....	.....	0.024	0.6	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.57	751.0	29.93	760.4	78.4	25.8	.....	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.68	725.8	29.95	760.8	72.5	22.5	84	SW	.....	.....	4	.....	8	SW	.....	0.717	18.2	.....	M. Wilhelm.
Hamburg	29.83	757.6	29.89	759.3	70.9	21.6	82	WSW	.....	.....	2	.....	6ck	.....	.....	0.078	2.0	.....	Captain F. Hegemann.
Kiel	29.55	750.2	29.87	758.6	69.5	20.7	82	WSW	.....	.....	3	.....	6	.....	.....	0.228	5.80	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.91	759.9	29.99	761.5	78.4	25.8	49	SE	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.85	758.1	80.8	27.1	.....	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.50	749.4	29.90	759.5	81.7	27.6	48	WNW	.....	.....	3	.....	7	.....	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel	29.96	760.9	30.00	762.1	72.1	22.3	50	S	.....	.....	3	.....	1cs	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.17	715.6	30.04	762.9	79.0	26.2	46	NW	.....	.....	2	.....	1	W	.....	0	0	Hazy	Dr. C. Lang.
Neufahrwasser	29.95	760.7	29.97	761.1	79.3	26.3	50	SSE	.....	.....	3	.....	1	.....	.....	0	0	.....	A. Lothes.
Posen	29.58	751.4	29.85	758.3	80.2	26.8	48	SE	.....	.....	8	.....	0	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.45	748.0	29.97	761.2	78.4	25.8	62	S	.....	.....	1	.....	10	SW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.03	737.4	29.94	760.4	72.5	22.5	66	W	.....	.....	1	.....	10	.....	.....	0.102	2.6	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.61	724.1	29.94	760.5	77.0	25.0	66	NW	0	4	.....	.....	4ck	N	.....	0	0	.....	T. Hopfner.
Wustrow	29.63	757.7	29.86	758.4	68.2	20.1	79	W	.....	.....	4	.....	10ks	.....	.....	0.079	2.0	.....	E. Schultz, Director.
GERMAN NAVAL SERIES.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.2	29.98	761.6	86.5	30.3	.....	NE	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.56	750.7	29.60	752.0	83.3	28.5	73	WNW	17.0	7.6	.....	.....	3	Calm	Calm	0.04	1.0	D. clouds	
Deesa	29.20	741.6	29.67	753.5	81.7	27.6	78	S	11.2	5.0	.....	.....	7	SW	WNW	0	0	D. cloudy	
Bombay	29.71	754.5	29.74	755.5	76.7	24.8	98	SW	9.0	4.0	.....	.....	10	.....	SSW	1.16	29.5	Overcast	
Poona	27.90	708.7	29.78	756.3	71.8	22.1	91	W	15.0	6.7	.....	.....	10	Calm	W	0	0	Gloomy	
Lahore	28.81	731.7	29.53	750.1	86.8	30.5	72	E	3.1	1.4	.....	.....	3	.....	.....	0.15	3.8	D. clouds	
Belgaum	27.24	692.0	29.81	757.1	69.7	20.9	92	W	8.0	3.6	.....	.....	10	.....	W	0.10	2.5	Overcast	
Roorkee	28.74	729.9	29.63	752.7	76.8	24.9	91	SE	6.9	3.1	.....	.....	8	.....	.....	0.75	19.0	Gloomy	
Agra	29.06	738.2	29.62	752.4	84.2	29.0	77	NE	.....	.....	.....	.....	7	.....	E	0	0	.....	
Nagpur	28.80	726.5	29.65	753.0	77.0	25.0	90	Calm	3.8	1.7	.....	.....	9	.....	S	0.40	10.2	Gloomy	
Lucknow	29.26	743.1	29.63	752.6	82.3	27.9	87	SW	2.2	1.0	.....	.....	10	.....	.....	0.44	11.2	Overcast	
Allahabad	29.32	744.7	29.63	752.6	82.1	27.8	89	Calm	1.6	0.7	.....	.....	9	.....	E	0.69	17.5	D. clouds	
Patna	29.47	748.5	29.65	753.0	82.7	28.2	81	E	2.0	0.9	.....	.....	6	E	E	0.30	7.6	D. clouds	
Hazaribagh	27.64	702.2	29.65	753.0	77.3	25.2	83	E	7.0	3.1	.....	.....	10	.....	E	0.12	3.0	Showery	
Cuttack	29.50	749.2	29.58	751.2	80.8	27.1	86	SE	2.0	0.9	.....	.....	7	.....	.....	0.21	6.3	D. clouds	
Calcutta (Alipore)	29.63	752.6	29.65	753.2	80.0	26.7	93	ESE	3.0	1.3	.....	.....	10	SE	.....	0	0	Overcast	
Goalpara	29.25	743.7	29.60	753.4	83.7	28.7	69	ESE	4.9	2.2	.....	.....	5	.....	.....	0.02	0.5	D. clouds	
Chittagong	29.64	752.9	29.73	755.2	79.4	26.3	93	E	3.7	1.6	.....	.....	10	.....	.....	0.08	2.0	Raining	
Sibsagar	29.33	745.0	29.66	753.4	85.6	29.7	81	ENE	2.3	1.0	.....	.....	8	W	W	0	0	D. clouds	
Jubbulpore	28.30	718.7	29.67	753.5	75.6	23.9	95	S	3.2	1.4	.....	.....	10	.....	S	0.83	21.1	Drizzling	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.]

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.57	751.0	29.98	761.0	83.8	28.8	54	S	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.6	29.89	759.1	87.1	30.6	47	ESE	.....	.....	4	4	W	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.84	757.8	29.94	760.5	84.6	29.2	56	SE	1.8	0.6	.....	1	.....	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.0	29.89	759.1	84.2	29.0	48	S	4.3	1.9	.....	6	S	.....	.....	0.488	12.4	.....	Prof. P. F. Denza.
Genoa	29.79	756.6	29.97	761.2	81.6	27.5	42	SW	3.5	1.7	.....	2	.....	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.1	29.86	758.5	84.6	29.2	42	SE	.....	.....	4	4	W	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.4	29.95	760.8	81.3	27.4	66	E	12.5	5.6	.....	0	.....	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.2	29.94	760.5	80.6	32.7	29	SW	.....	.....	2	0	.....	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.6	29.95	760.7	85.8	29.6	41	SW	3.8	1.7	.....	7	.....	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.8	29.97	761.1	91.0	32.8	33	WSW	8.7	3.9	.....	0	.....	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.73	755.2	29.98	761.4	84.7	29.3	48	N	7.4	3.3	.....	2	NW	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.2	29.95	760.6	88.5	31.4	59	SW	1.3	0.6	.....	0	.....	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.79	756.7	29.93	761.4	82.6	28.1	67	SE	.....	.....	2	7	W	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	29.99	761.7	80.4	26.9	72	NE	7.4	3.3	.....	1	.....	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.2	29.96	761.0	87.8	31.0	49	SSW	6.7	3.0	.....	2	WSW	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.46	748.3	30.02	762.4	85.8	29.7	66	WSW	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 479.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.94	760.5	29.95	760.7	78.1	25.6	89	NE	6.0	2.7	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.97	761.2	77.1	25.1	90	WSW	10.7	0.3	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.91	759.7	29.97	761.2	75.0	23.9	90	SSW	3.3	1.5	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.90	759.4	29.95	760.7	79.4	26.3	83	W	1.5	0.7	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.91	632.6	29.87	758.7	69.6	15.6	77	SW	.....	.....	1	.....	8	.....	Calm	0.73	18.4	Cloudy	Prof. L. Perez.
Leon	24.28	616.8	29.86	758.4	64.9	18.3	92	NE	.....	.....	1	0	9k	.....	NW	0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	22.94	582.6	29.82	757.5	59.0	15.0	89	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascallentes)	.....	.....	.....	.....	63.0	17.2	88	Calm	.....	.....	0	0	9ks	.....	.....	0.31	7.9	Very cloudy	M. V. de Leon, M. E.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chazaro.
San Luis Potosi	24.06	611.2	29.97	761.3	69.5	15.3	78	E	.....	.....	1	5	0	E	.....	0	0	½ cloudy	G. Barreda, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.53	572.2	30.08	763.9	57.0	13.9	95	E	.....	.....	2	.....	9n	.....	SE	0.32	8.0	Very cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.29	591.6	29.97	761.3	66.0	18.8	82	E	0.3	0.1	.....	.....	7ck	.....	N	0.64	16.2	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.47	748.6	29.76	755.9	78.1	25.6	92	Calm	.....	.....	0	.....	10n	.....	SW	3.60	91.4	Threatening	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.58 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.7	29.87	758.7	70.2	21.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.80	757.0	29.86	758.4	70.5	21.4	.....	SSW	.....	.....	3	.....	.....	.....	.....	0.016	0.4	.....	
Helder	29.82	757.5	29.82	757.5	66.2	19.0	.....	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.85	758.1	29.85	758.1	70.0	21.1	69	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	29.84	758.0	29.89	759.2	72.3	22.4	68	SSW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.45	748.1	29.51	749.5	64.0	17.8	82	S	25.9	11.6	.....	.....	3	.....	.....	0.602	15.3	.....	
Brönø	29.49	749.1	29.53	750.1	69.1	20.6	51	E	4	2	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.48	748.9	29.63	752.5	65.6	18.2	88	SSW	11	5	.....	.....	10	.....	.....	0.413	10.5	Raining	
Tromsö	29.61	752.1	29.65	753.2	59.2	15.1	55	NE	4	2	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.87	758.7	30.06	763.4	74.1	23.4	90	WSW	13.0	5.8	.....	.....	5	.....	.....	0.138	3.5	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.1	30.01	762.2	79.5	26.4	16	NNW	7.4	3.3	.....	.....	2	NNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.01	762.2	30.10	764.4	74.3	23.5	65	SW	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.09	764 2	74.1	23.4	41	NNE	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.04	763.1	30.13	765.3	70.1	26.0	73	SW	5.6	2.5	.....	.....	3	.....	.....	0.114	2.9	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or Swell. Height scale 0—9	Sea or Swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	.....	.....	30.02	762.4	68.9	20.5	WNW	.....	.....	2	.....	2	.....	WNW	1	WNW	D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.	.....	.....	30.04	763.0	80.2	26.8	NE	.....	.....	2	.....	3	.....	NE	1	.....	D. clouds	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.93	760.3	84.9	29.4	SW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.8	30.00	762.1	75.0	23.9	61	SE	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.67	753.6	30.07	763.8	72.5	22.5	48	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.84	757.8	30.07	763.7	74.1	23.4	47	SSW	7	3	.....	.....	7ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.03	762.7	30.04	763.1	66.7	19.3	56	NW	7	3	.....	c	8cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.37	746.1	29.99	761.7	71.1	21.7	51	NNE	7	3	.....	.....	6k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	66 0	18.9	72	N	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.86	758.5	29.88	759.0	86.9	30.5	100	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.48	748.7	30.00	762.1	69.8	21.0	43	NNW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.61	752.0	29.81	757.1	62.8	17.1	85	E	9	4	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.98	761.6	30.00	762.1	51.6	10.9	79	NW	9	4	.....	.....	7kc	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.34	719.8	29.69	754.0	74.7	23.7	41	NW	45	20	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.71	754.6	29.63	752.5	71.4	21.9	52	NE	11	5	.....	.....	10	.....	.....	Blank	Blank	Light clouds	Capt. Wisganow.
Krotkowo*	29.37	746.1	29.62	757.5	74.7	23.7	41	NNW	2	1	.....	.....	2k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.57	751.0	29.82	757.4	74.8	23 8	41	WNW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.83	732.2	29.76	755.9	65.1	18.4	64	Calm	0	0	.....	.....	5k;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.22	742.2	29.43	747.6	95.0	35.0	38	NNE	4	2	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.10	713.8	29.55	750.5	90.3	32.4	49	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.01	736.9	29.49	749.1	63.7	17.6	79	E	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.59	751.6	29.87	758.7	53.2	11.8	71	N	2	1	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thunder	
Peking (China)	29.65	753.2	29.80	756.8	77.2	25.1	81	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.85	758.2	29.95	760.7	67.6	19.8	94	SSE	7 8	3.5	.....	.....	5n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 680 ? m., or 2,165 ? ft. *N. 53° 47', E. 45° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.79	756 6	29.89	759.2	81.1	27.3	70	E	3.4	1.53	.....	.....	1	.....	.....	0.090	2.29	Hazy	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.99	761.7	30.04	763.1	79.7	26.5	55	SE	2.4	1.07	.....	3	4	S	.....	0	0	Cloudy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.11	688.5	.....	.....	73.8	23.2	42	W	5.8	2.61	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.78	705.7	29.88	759.0	85.6	29.8	26	S	5.2	2.33	.....	0	3	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.73	755.2	29.87	758.8	99.5	37.5	74	SSE	2.5	1.11	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.9	30.00	762.0	70.9	21.6	68	SW	11.9	5.3	.....	0	5	.....	.....	0.083	2.1	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.80	756.9	29.86	758.5	81.1	27.3	77	ESE	8.5	3.8	.....	2c	1k	.....	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.7	29.81	757.0	86.0	30.0	88	E	0	0	.....	.....	7n	.....	W	0.039	1.0	% Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	759.0	29.98	761.4	79.7	26.6	60	WNW	16.8	7.5	.....	1	1	NW	W	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.88	759.0	29.97	761.3	79.9	26.6	85	SE	2.2	1.00	.....	5ks	3k	SE	SE	0	0	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.6 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.87	758.6	29.91	759.6	64.0	17.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.81	757.1	29.86	758.4	62.6	17.0	90	SW	.....	.....	4	.....	10	.....	.....	0.012	0.3	.....	
Hernosand	29.74	755.5	29.80	756.8	66.1	18.4	84	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	29.70	754.4	29.88	758.9	70.2	21.2	65	SSW	.....	.....	6	.....	4	.....	.....	0	0	.....	
Wisby	29.81	757.1	29.87	758.0	75.9	24.4	60	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.75	755.7	29.84	757.9	72.9	22.7	65	S	17.4	7.8	.....	.....	9	W	.....	0.129	3.28	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.2	29.07	761.1	72.9	22.7	65	NE	.....	.....	2	.....	8	.....	.....	0.020	0.5	Covered	The Observatory.
Zurich	28.42	721.9	30.02	762.4	66.6	19.2	91	W	.....	.....	1	.....	10	.....	.....	0.465	11.8	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.5 mm.; Thermometer, +1.6 Cent.; Relative Humidity, +9 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.06	763.4	75.4	24.1	60	NNE	13	6.0	.....	.....	4	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.9	67.6	30.0	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.76	755.9	90.9	32.7	57	WSW	.....	.....	3	.....	6k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.75	755.6	29.81	757.2	59	15.0	91	SW	2	0.9	.....	8c	2ks	SW	SW	0	0	Fair	G. A. Ball.
Charlottetown, P. E. Island	29.77	756.1	29.81	757.2	64	17.8	79	W	5	2.2	.....	8c	8s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.47	748.5	29.66	753.1	71.8	22.1	85	W	.....	.....	4	7cs	2s	.....	.....	0.033	0.84	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.64	752.8	29.80	756.9	64.5	18.1	84	E	.....	.....	2	0	7s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
*Father Point, Quebec	29.74	755.4	29.76	755.9	51	10.6	96	SW	15	6.7	.....	.....	10s	.....	W	0	0	Threatening	W. H. Bevis.
Fredericton, N. B	29.78	756.4	29.84	757.9	58.9	14.9	88	E	1	0.4	.....	8ck	Fog	.....	.....	0.050	1.27	Foggy	J. McWilliams.
*Fort Garry, Manitoba	29.01	736.8	29.82	757.4	58	14.4	91	N	4	1.8	.....	2ck	5ks	N	N	0.010	0.25	Fair	Prof. Harrison.
Granton, Ontario	28.70	729.0	29.74	755.4	73	22.8	85	SW	.....	.....	1	1cs	0	SW	.....	0.04	1.0	Clear	James Stewart.
*Halifax, N. S	29.76	755.9	29.89	759.2	64	17.8	78	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	James Grant.
Hamilton, Ontario	29.43	747.5	29.77	756.1	75.4	24.1	84	W	.....	.....	2	5ck	0	W	.....	0.03	0.8	Clearing	F. Allison, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Dickson, A. M.
*Kingston, Ontario	29.41	747.0	29.73	755.1	70	21.1	90	SW	13	5.8	.....	8c	0	SW	.....	0.13	3.3	Cloudy	E. Weedon.
Little Glace Bay, N. S	29.75	755.6	29.78	756.4	72.6	22.6	70	W	3	1.3	.....	3c	0	W	.....	0	0	Fair	S. Woods, M. A.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
*Montreal, Quebec	29.51	749.5	29.70	754.4	69	20.6	87	W	12	5.4	.....	.....	10s	.....	.....	0.16	4.1	Cloudy	J. R. Nason
*Parry Sound, Ontario	29.04	737.6	29.70	754.4	67	19.4	95	SE	3	1.3	.....	2ck	5n	W	W	0.35	8.9	Fair	C. H. McLeod, C. E.
Peterboro, Ontario	29.03	737.3	29.74	755.4	71.2	21.8	86	SW	.....	.....	2	6k	0	.....	.....	0.15	3.8	Fine	Rev. R. Mosley.
Port Dover, Ontario	29.13	739.9	29.79	756.7	70	21.1	95	S	8	3.6	.....	5ck	0	W	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Hastings, N. S	29.77	756.1	29.82	757.4	67.1	19.5	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.18	741.1	29.80	756.9	71	21.7	94	SW	12	5.4	.....	2k	0	W	.....	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.44	747.8	29.76	755.9	63	17.2	94	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.24	742.7	29.68	753.9	67	19.4	89	Calm	0	0	.....	.....	10s	.....	W	0.17	4.3	Cloudy	Capt. Ashe, R. N.
St. Andrews, N. B	29.76	755.9	29.81	757.2	59	15.0	90	SW	.....	.....	1	Haze	Haze	.....	.....	0	0	Foggy	W. H. McIntyre.
St. John, N. B	29.66	753.9	29.84	757.9	67	19.5	94	SE	5	2.2	.....	.....	Fog	.....	.....	0	0	Hazy	Dr. Gove.
*Saugeen, Ontario	29.01	736.8	29.68	753.9	73	22.8	77	SW	14	6.3	.....	2k	0	.....	.....	0	0	Light fog	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.76	19.3	Clear	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B	29.77	756.1	29.81	757.2	70	21.1	73	SW	7	3.1	.....	2ck	0	W	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.41	744.6	29.77	756.1	71	21.7	84	SW	8	3.6	.....	5ck	5ks	NW	NW	0.01	0.3	Cloudy	T. C. Hill.
Windsor, N. S	29.81	757.2	29.84	757.9	69.6	20.4	75	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Woodstock, Ontario	28.72	729.5	29.73	755.1	73.7	23.2	81	Calm	0	0	.....	2ck	1cs	W	W	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			Prof. J. Montgomery.
St. Johns, Newfoundland	29.62	752.3	29.67	753.7	55.0	12.8	80	NE	.....	.....	.....	•	10n	.....	.....	0.06	1.5	Showery	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.65	753.1	29.87	758.7	74	23.3	81	S	6	2.7	.....	4k	0	W	.....	1.25	31.7	Fair	
Alpena, Michigan	29.02	737.1	29.64	752.6	66	18.9	95	E	1	0.4	.....	.....	8s	.....	W	1.46	37.1	Cloudy.	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	52	11.1	100	SE	2	0.9	.....	.....	10n	.....	S	2.16	54.9	Heavy rain	
Atlanta, Georgia	28.89	733.8	29.99	761.7	72	22.2	90	E	2	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.98	761.5	29.99	761.7	71	21.7	90	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.87	758.7	30.06	763.5	76	24.4	84	SE	4	1.8	.....	.....	10s	.....	Calm	0.42	10.9	Cloudy	
Baltimore, Maryland	29.94	760.5	29.98	761.5	72	22.2	85	S	5	2.2	.....	2k	Haze	SW	Calm	0	0	Fair	
Barnegat, New Jersey	29.95	760.7	29.9	761.2	77	25.0	77	SW	14	6.3	.....	2c	Haze	SW	Calm	0	0	Clear	
Bismarck, Dakota	27.97	710.4	29.82	757.4	63	17.2	83	E	6	2.7	.....	1c	0	NW	.....	0	0	Clear	
Boerne, Texas	28.36	720.3	29.65	753.1	60	15.6	82	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.00	685.8	29.96	761.0	60	15.6	77	W	2	0.9	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Boston, Massachusetts	29.73	755.1	29.88	758.9	69	20.6	90	SW	8	3.6	.....	.....	10n	.....	W	Inap.	Inap	Light rain	
Brackettville, Texas	28.68	728.0	29.65	753.1	70	21.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.79	731.3	29.76	755.9	64	12.2	93	Calm	0	0	.....	2ck	0	N	.....	0.02	0.5	Fair	
Brownsville, Texas	29.63	752.6	29.68	753.9	75	23.9	95	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.11	739.4	29.77	756.1	74	23.3	72	SW	8	3.6	.....	2ck	Haze	SW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	65	18.3	40	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.48	748.8	29.75	755.6	70	21.1	85	S	9	4.0	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Cairo, Illinois	29.56	750.8	29.93	760.2	78	25.6	78	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.27	692.6	29.84	757.9	36	2.2	71	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	78	25.6	78	Calm	0	0	.....	Haze	2ks	.....	Calm	0	0	Hazy	
Cape Henry, Virginia	30.02	762.5	30.03	762.7	75	23.9	86	S	8	3.6	.....	1k	0	S	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.05	763.3	30.06	763.5	79	26.1	78	SE	4	1.8	.....	0	0	.....	.....	0.26	6.6	Clear	
Cape May, New Jersey	29.96	761.0	29.98	761.5	72	22.2	90	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.00	736.6	29.67	753.6	68	20.0	84	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.99	761.7	30.04	763.0	82	27.8	79	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charlotte, North Carolina	29.22	742.2	30.00	762.0	74	23.3	86	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.24	742.7	30.00	762.0	74	23.3	86	Calm	0	0	.....	.....	10s;sme	.....	sW;Calm	Inap	Inap	Cloudy	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	49	9.4	57	NW	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Chicago, Illinois	29.04	737.6	29.68	753.9	76	24.4	69	SW	11	4.9	.....	2ck	2ks	SW	SW	0	0	Fair	
Cincinnati, Ohio	29.30	744.2	29.91	759.7	76	24.4	73	SW	8	3.6	.....	4k	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.14	740.1	29.82	757.4	76	24.4	64	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.04	712.2	29.64	752.8	68	20.0	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.08	738.6	29.87	758.7	73	22.8	81	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Concho, Texas	27.90	708.6	29.50	749.3	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.31	745.0	29.78	756.4	70	21.1	75	Calm	0	0	.....	1ck	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.14	740.1	29.74	755.4	73	22.8	76	W	10	4.5	.....	5cs	0	SW	.....	Inap.	Inap.	Fair	
Deadwood, Dakota	25.20	640.1	.....	.....	67	19.4	84	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.03	737.3	29.78	756.4	73	22.8	76	E	1	0.4	.....	2k	0	E	.....	0	0	Fair	
Denver, Colorado	24.68	626.9	29.50	749.4	59	15.0	43	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.93	734.8	29.77	756.1	68	20.0	79	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Detroit, Michigan	29.11	739.4	29.74	755.4	73	22.8	76	SW	10	4.5	.....	1ck	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.25	692.1	29.42	747.3	68	20.0	84	Calm	0	0	.....	.....	8s	.....	Calm	0.79	20.1	Cloudy	
Dubuque, Iowa	29.06	738.1	29.72	754.9	70	21.1	70	SW	3	1.3	.....	0	Haze	.....	Calm	0.05	1.3	Clear	
Duluth, Minnesota	29.05	737.9	29.69	754.1	64	17.8	73	NW	12	5.4	.....	0	0	.....	.....	0.31	7.9	Clear	
Eagle Pass, Texas	28.99	736.3	29.68	753.9	74	23.3	81	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.77	756.1	29.84	757.9	57	13.9	94	S	2	0.9	.....	.....	Fog	.....	S	0	0	Foggy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.09	662.7	.....	.....	70	21.1	66	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.13	739.9	29.79	756.7	77	25.0	65	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	28.81	734.3	29.52	749.8	65	18.3	89	N	9	4.0	.....	.....	10s	.....	N	1.28	32.5	Cloudy	
Florence, Arizona	28.23	717.0	29.83	757.7	79	26.1	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.66	702.6	29.38	746.2	64	17.8	73	E	12	5.4	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer	26.47	672.3	.....	.....	.....	.....	.....	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.10	637.5	30.06	763.5	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.30	744.2	29.81	757.2	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.11	637.8	29.91	759.7	73	22.8	35	N	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Fort Griffin, Texas	28.58	725.9	29.80	756.9	66	18.9	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.04	686.8	.....	.....	70	21.1	43	E	6	2.7	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.58	700.5	29.42	747.3	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.63	727.2	29.69	754.1	68	20.0	70	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.91	708.9	.....	.....	63	17.2	53	NE	5	2.2	.....	5ck	0	W	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	65	18.3	44	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.02	711.7	29.47	748.5	80	26.7	55	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.65	753.1	29.69	754.1	74	23.3	90	NE	21	9.4	.....	2cs	7ks;s	Calm	NE	0	0	Cloudy	
Graham, Texas	28.74	730.0	29.78	755.9	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.01	736.8	29.61	752.1	73	22.8	81	S	24	10.7	.....	.....	10s	.....	S	0	0	Threatening	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.85	732.8	29.75	755.6	67	19.4	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.11	739.4	29.85	758.2	74	23.3	72	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.70	754.4	29.74	755.4	77	25.0	77	N	24	10.7	.....	5cs	1s	E	N	0	0	Fair	
Jacksboro, Texas	28.69	728.7	29.76	755.9	75	23.9	90	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.97	761.2	30.00	762.0	82	27.8	79	E	5	2.2	.....	2k;hz	0	SE	.....	0.17	4.3	Fair	
Keokuk, Iowa	29.13	739.9	29.71	754.6	74	23.3	81	S	14	6.3	.....	.....	10n	.....	W	0.08	2.0	Light rain	
Key West, Florida	29.84	758.4	29.90	759.4	84	28.9	75	SE	14	6.3	.....	2k	0	SE	.....	0.11	2.8	Fair	
Kittyhawk, North Carolina	29.97	761.2	30.00	762.0	77	25.0	91	NE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.05	737.9	30.02	762.5	70.5	21.4	83	SE	1	0.4	.....	5k	Haze	SW	Calm	0	0	Fair	
La Crosse, Wisconsin	28.98	736.1	29.67	753.6	70	21.1	75	NW	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
La Mesilla, New Mexico	25.91	658.1	30.06	763.5	66	18.9	69	Calm	0	0	.....	2k	0	W	.....	0.05	1.3	Fair	
Laredo, Texas	29.30	744.2	29.82	757.3	81	27.2	55	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.95	735.3	29.74	755.4	77	25.0	65	SW	4	1.8	.....	1cs	5ks	.....	.....	0	0	Fair	
Little Rock, Arkansas	29.55	750.6	29.84	758.2	72	22.2	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.45	748.0	29.78	756.4	55.0	12.8	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.38	746.2	29.91	759.7	78	25.6	69	NE	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.36	745.7	30.01	762.2	72	22.2	90	SW	4	1.8	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Madison, Wisconsin	28.72	729.5	29.65	753.1	69	20.6	80	W	12	5.4	.....	0	6s	.....	W	0	0	Fair	
Marquette, Michigan	28.93	734.8	29.59	751.6	62	16.7	100	NW	6	2.7	.....	.....	10n	.....	Calm	0.86	21.8	Light rain	
Mason, Texas	28.20	716.3	29.90	759.4	64	17.8	73	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.03	737.8	29.9	760.0	76	24.4	77	SE	4	1.8	.....	5ck	Sm'e	SW	Calm	0	0	Fair	
Milwaukee, Wisconsin	28.92	734.6	29.59	751.6	75	23.9	68	SW	25	11.2	.....	6c;c-	0	W;Calm	.....	0	0	Fair	
Mobile, Alabama	29.84	757.9	29.85	758.2	76.5	24.7	97	E	15	6.7	.....	.....	10n	.....	Calm	0.47	11.9	Heavy rain	
Montgomery, Alabama	29.74	755.4	29.97	761.2	76	24.4	90	E	8	3.6	.....	.....	10ks	.....	SE	0.09	2.3	Threatening	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observe'r.
Morgantown, West Virginia	28.98	736.1	29.92	760.0	70	21.1	99	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.77	603.8	30.13	765.3	50	10.0	100	NW	50	22.4	.....	.....	10n	.....	NW	0.79	20.1	Light rain...	
Nashville, Tennessee.....	29.56	750.6	30.07	763.8	78	25.6	73	SE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
New Haven, Connecticut....	29 83	757.7	29.94	760.5	70	21.1	86	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New London, Connecticut...	29.89	759.2	29.94	760.5	73	22.8	76	SW	10	4.5	.....	5cs	Haze	SW	Calm	0	0	Fair.....	
New Orleans, Louisiana....	29.68	753.9	29.74	755.4	79	26.1	82	E	16	7.2	.....	.....	10n	.....	E	0.52	13.2	Light rain..	
Newport, Rhode Island.....	29.89	759.2	29.94	760.5	68	20.0	90	SW	14	6.3	.....	5ck	Sm'e	SW	.....	0	0	Fair.....	
New York, New York.....	29.80	756.9	29.97	761.2	69	20.6	90	SW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Norfolk, Virginia.....	29.98	761.5	30.04	763.0	75	23.9	90	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy.....	
North Platte, Nebraska	29.03	737.0	29.39	746.5	61	16.1	82	E	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear.....	
Olympia, Washington Ter..	29.84	757.9	29.88	758.9	51.0	10.6	96	S	7	3.1	.....	2cs	0	Calm	.....	0.25	6.3	Fair.....	
Omaha, Nebraska.....	28.66	727.7	29.09	754.1	67	19.4	84	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York.....	29.49	749.0	29.80	756.9	75	24.9	72	SW	8	3.6	.....	6c	0	NW	.....	Inap	Inap.	Fair.....	
Pembina, Dakota.....	28.92	34.6	29.72	754.9	57	13.9	94	Calm	0	0	.....	6k	0	NW	.....	0.29	7.4	Fair.....	
Philadelphia, Pa.....	29.91	759.7	29.96	761.0	72	22.2	90	W	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Phœnix, Arizona.....	28.49	723.6	30.18	766.6	74	23.3	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado.....	17.92	455.2	30.13	765 3	33	0.6	61	SW	9	4.0	.....	5cs	0	Calm	.....	0.06	1.5	Fair.....	
Pilot Point, Texas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pioche, Nevada.....	23.89	606.8	29.66	753.4	61	16.1	12	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania,....	29.13	739.9	29.89	759.2	75	23.9	68	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.08	738.6	29.70	754.4	73	22.8	76	S	14	6.3	.....	5ck	0	W	.....	0	0	Clear.....	
Portland, Maine	29.80	756.9	29.84	757.9	63	17.2	83	Calm	0	0	.....	.....	10n	.....	Calm	0.09	2.3	Fair	
Portland, Oregon.....	29.87	758.7	29.94	760.5	59.5	10.3	100	S	1	0.4	.....	.....	Fog	.....	Calm	0.01	0.3	Light rain....	
Prescott, Arizona.....	24.63	625.6	29.99	761.7	55	12.8	62	W	.....	.....	1	0	0	.....	.....	0.15	3.8	Foggy	
Punta Rassa, Florida.....	29.90	759.4	29.91	759.7	81	27.2	78	E	15	6.7	.....	2c	2ks	W	Calm	0	0	Clear.....	
Red Bluff, California.....	29.52	749.8	29.87	758.7	62	16.7	91	N	3	1.3	.....	.....	10s	.....	S	0.47	11.9	Fair.....	
Rio Grande City, Texas.....	29.55	750.6	29.76	755.9	75	23.9	90	Calm	0	0	.....	0	0	W	.....	0.28	7.1	Cloudy.....	
Rochester, New York.....	29.22	742.2	29.79	756.7	74	23.3	68	SW	6	2.7	.....	2c	0	.....	.....	0	0	Clear	
Roseburg, Oregon..... ...	29.37	746.0	29.93	760.2	55	12.8	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Clear.....	
Sacramento, California.....	29.78	756.4	29.86	758.4	62	16.7	97	Calm	0	0	.....	.....	Fog	.....	.....	0.70	17.8	Cloudy.....	
St. Louis, Missouri.....	29.32	744.7	29.87	758.7	71	21.7	71	SW	9	4.0	.....	1c	0	Calm	.....	Inap	Inap.	Foggy	
St. Marks, Florida.....	29.94	760.5	29.95	760.7	75	23.9	95	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Clear.....	
St. Paul, Minnesota.....	28.90	734.0	29.69	754 1	65	18.3	83	W	3	1.3	.....	0	0	.....	.....	0.43	10.9	Cloudy	
Salt Lake City, Utah.....	25.39	644.9	29.72	754.9	69	20.6	31	NW	7	3.1	.....	.....	10ks	.....	SW	0.04	16.3	Clear.....	
San Antonio, Texas.....	29.08	738.6	29.64	762.8	73	22.8	75	N	4	1.8	.....	0	0	.....	.....	0	0	Threatening	
San Diego, California.....	29.74	755 4	29.81	757 2	64	17.8	83	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Clear.....	
Sandusky, Ohio.....	29.17	740.9	29.80	756.9	73	22.8	72	SW	13	5.8	.....	0	Haze	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey....	29.93	760.2	29.96	761.0	72	22.2	85	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Clear.....	
San Francisco, California..	29.81	757.2	29.87	758.7	61	16.1	88	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico.....	23.28	591.3	29.62	757.4	56	13.3	61	Calm	0	0	.....	5k	0	N	.....	0.02	0.5	Cloudy.....	
Savannah, Georgia.....	29.96	761.0	30.05	763.3	77	25.0	86	E	5	2.2	.....	.....	10s	.....	SE	Inap.	Inap	Fair.....	
Shreveport, Louisiana.....	29.61	752.1	29.82	757.4	76	24.4	77	SE	2	0.9	.....	8ck	0	Calm	.....	0.10	2.5	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	
Smithville, North Carolina	30.05	763.3	30.09	764.3	80	26.7	87	S	4	1.8	.....	2ck	8ks	NW	S	0.02	0.5	Cloudy	
Socorro, New Mexico.....	25.31	642.9	29.38	746.2	63	17.2	62	NW	2	0.9	.....	2ck	0	NW	.....	0	0	Fair	
Springfield, Ill	29.21	741.9	29.84	757.9	74	23.3	72	SW	10	4.5	.....	2k	0	W	.....	0	0	Fair	
Springfield, Massachusetts	29.79	756.7	29.91	759.7	69	20.6	90	S	5	2.2	.....	2k	5ks	SW	SW	Inap	Inap.	Cloudy.....	
Stockton, Texas.....	26.87	682.5	26.87	758.7	70	21.1	13	SE	12	5.4	.....	5k	0	E	.....	0	0	Fair.....	
Thatcher's Island, Mass.....	29.83	757.7	29.88	758.9	64	17.8	100	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Toledo, Ohio, ...	29.12	739.6	29.70	755.9	75	23.9	72	S	12	5.4	.....	Haze	0	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.31	693.7	29.86	758.4	80	26 7	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon.....	29.54	750.3	30.02	762.6	58.0	14.4	68	SW	12	5.4	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Uvalde, Texas.....	25.86	733.0	29.64	752.8	74	23.3	72	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.61	752.1	29.86	758.4	74	23.3	95	E	6	2.7	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Virginia City, Montana.....	24.00	611.1	29.54	750.3	63	17.2	19	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California.....	29.48	748.8	29.83	757.7	64	17.8	73	W	3	1.3	.....	0	0	.....	.....	0	0	Cloudy.....	
Washington, D. C.....	29.87	758.7	29.98	761.5	75	23.9	81	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Wickenburg, Arizona..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina....	29.95	761.5	30.06	763.5	76	24.4	95	Calm	0	0	.....	5ck	Sm'e	Calm	Calm	0.10	2.6	Smoky.....	
Winnemucca, Nevada.....	25.52	648.2	29.88	758.9	52	11.1	66	SW	4	1.8	.....	0	5s	.....	W	0.03	0.8	Fair.....	
Wood's Holl, Mass.....	29.89	759.2	29.93	760.2	69	20.6	90	SW	22	9.8	.....	5ck	5s	SW	SW	0	0	Cloudy.....	
Yankton, Dakota.....	28.53	724.6	29.77	756.1	60	15.6	76	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona.....	29.48	748.8	29.63	752.6	72	22.2	34	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	29.81	757.2	29.86	758.4	81	27.2	78	SE	4.8	2.1	.....	8c	0	Calm	.....	0	0	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I...	30.11	764.8	30.12	765.0	79	26.1	87	SE	7	3.1	.....	5ck	2cs	Calm	.....	1.24	31.5	Hazy.....	Chas. Hasselbrook.
Medellin, Colombia, S. A.*	25.21	640.8	.....	.....	66.0	18.9	80	Calm	.....	.....	0	5c;cs	3ks	.....	.....	0.13	3.3	.....	James Gall.
Navassa, W. I.....	29.85	758.2	29.93	760.2	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Thomas Herran.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	79	26.1	82	SE	.....	.....	2	.....	5ks	.....	.....	1.800	45.7	Fair.....	F. M. Everett.
Santiago de Cuba, W. I....	29.91	759.7	29.94	760.5	80	26.7	82	Calm	0	0	.....	2c	2k	.....	.....	Blank	Blank	Cloudy.....	C. J. Hering.
St. Thomas, W. I.	29.60	751.8	29.61	752.1	82	27.8	87	SE	3	1.3	.....	2c	2n	E	.....	0.27	6.9	.....	Robert Mason.
York Factory, B. A.....	29.93	760.2	29.98	761.5	49.5	9.7	100	NE	10	4.5	.....	.....	9s	.....	NE	Inap.	Inap.	Cloudy.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,028(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,208 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,565 ft., or 1,463 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329 5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,489 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm., Campo, 2.97 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.80 in., or 40.6 mm., Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.6 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. * The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.20‡	767.1‡	.....	.....	80	26.7	91	E	15	6.7	.....	.....	10	.....	SE	1.82	46.2	.....	.....	Stormy.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.90‡	761.7‡	.....	.....	76.5	24.7	88	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Mare I'd, Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	64	17.8	94	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Alaska, N. 23° 16′, W. 110° 56′...*.	29.77‡	756.1‡	.....	.....	78	25.6	91	NNW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Alliance, N. 55° 16′, E 5° 07′.	29.73‡	755.1‡	.....	.....	63	17.2	83	SW	.....	.....	4	.....	9	.....	SW	.....	.....	.....	SW	D. clouds....	
Ashuelot, Yokohama, Japan	29.97‡	761.2‡	.....	.....	77	25.0	91	SSE	.....	.....	2	.....	0?	.....	.....	.....	.....	Smooth	.....	Cloudy?.....	
Colorado, New York, N. Y.....	29.94‡	760.5‡	.....	.....	70	21.1	90	SW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Misty.....	
Constellation. Buzzard Bay, Mass.....	29.92‡	760.0‡	.....	.....	68	20.0	90	SW	.....	.....	6	.....	5?	.....	NW	0	0	Light	WSW	Clear?	
Constitution. Navy Yard, Brooklyn, N.Y.	29.98‡	761.5‡	.....	.....	71	21.7	85	SW	.....	.....	3	.....	0?	.....	.....	.....	.....	.....	.....	Overcast?...	
Enterprise, Cowes, England.....	29.79‡	756.7‡	.....	.....	64	17.8	89	WSW	.....	.....	7	.....	4	.....	WSW	.....	.....	Mod'ate	.....	Clear.....	
Essex, Rio de Janeiro, Brazil..	30.13‡	765.3‡	.....	.....	70	21.1	90	N	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Franklin. Norfolk, Va.	30.05‡	763.3‡	.....	.....	74	23.3	90	SW	.....	.....	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Hartford Rio de Janeiro, Brazil...	30.09‡	764.3‡	.....	.....	72	22.2	80	Calm	.....	.....	0	.....	5?	.....	.....	0	0	.....	.....	Clear?.....	
Independence, Mare I'd. Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	65	18.3	94	W	1.2	0.5	.....	.....	6?	.....	SW	.....	.....	.....	.....	Clear?.....	
Kearsarge, St. Johns, New Foundland.	29.74‡	755.4‡	.....	.....	52	11.1	86	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	.....	.....	Heavy rain.	
Lackawana, Apia, Samoa Is.....†.	29.85‡	758.2‡	.....	.....	77	25.0	86	E	.....	.....	2–5	.....	2	.....	ESE	.....	.....	Smooth	.....	Fair.....	
Michigan. Chicago, Ill.....	29.64‡	752.8‡	.....	.....	73.5	23.1	79	SW	.....	.....	6	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy. Shanghai, China.....	29.86‡	758.9‡	.....	.....	83	28.3	87	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongahela, Hakodadi, Japan.....	29.95‡	761.5‡	.....	.....	70	21.1	61	NNE	.....	.....	0–1	c	.....	.....	.....	Very light	Very light	.....	.....	D. clouds....	
New Hampshire. Port Royal, S. C.....	30.03‡	762.7‡	.....	.....	77	25.0	86	SE	9	4.0	.....	.....	2?	.....	SE	0.4.	10.	.....	.....	Raining?.....	
Onward, Callao, Peru.....†.	29.96‡	761.5‡	.....	.....	63	17.2	89	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China.....	29.86‡	759.2‡	.....	.....	82	27.8	91	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.....	29.97‡	761.2‡	.....	.....	75	23.9	86	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Arica, Peru.....	30.01‡	762.2‡	.....	.....	64	17.8	78	SSE	.....	.....	2	.....	0?	.....	.....	.....	.....	Long	S	Overcast?...	
Portsmouth. Portland, Maine.....	29.85‡	758.2‡	.....	.....	61	16.1	100	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining	
Powhatan, N. 33° 25′, W 76° 13′.....	30.04‡	763.0‡	.....	.....	82	27.8	75	ENE	.....	.....	2	.....	5	.....	Calm	0	0	Smooth	.....	Fair.....	
Quinnebaug, Venice, Italy.....	29.94‡	760.5‡	.....	.....	82	27.8	63	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 37° 45′, E 134° 57′. §.	29.97‡	761.2‡	.....	.....	83	28.3	97	E	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear..	
Richmond, Yokohama, Japan.....	29.97‡	761.2‡	.....	.....	79	26.1	86	S	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.71‡	754.6‡	.....	.....	76	24.4	100	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md.....	29.99‡	761.7‡	.....	.....	76	24.4	82	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Saratoga, Newport, R. I.....	29.96‡	761.0‡	.....	.....	66	18.9	100	SW	.....	.....	2	.....	5	.....	SW	0	0	.....	.....	D. clouds....	
St. Louis, League Island, Pa	29.98‡	761.5‡	.....	.....	73	22.8	90	SW	12	5.4	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Trenton, Gravesend, Eng.	29.73‡	755.1‡	.....	.....	69	20.6	65	SW	.....	.....	3–6	.....	5	.....	W	0.01	0.3	.....	.....	Squally.....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.89‡	759.2‡	.....	.....	63	17.2	94	WSW	.....	.....	1	.....	8	.....	Calm	0	0	Smooth	.....	D. clouds....	
Vandalia, Navy Yard, Pensacola, Fla.	29.97‡	760.7‡	.....	.....	78	25.6	91	NE	.....	.....	4	.....	10	.....	E	.....	.....	Mod'ate	E	Cloudy.....	
Wabash, Boston, Mass.....	29.91‡	759.7‡	.....	.....	68	20.0	70	SW	7	3.1	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
Wachusett, Vineyard Sound, Mass..†.	29.94‡	760.5‡	.....	.....	69	20.6	90	SW	.....	.....	5	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Wyoming. Sebastopol, Crimea, Russia	29.91‡	759.7‡	.....	.....	65	18.3	73	N	.....	.....	3–4	.....	10	.....	N	.....	.....	Smooth	N	Cloudy.....	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
S.S. Samaria																			Capt. T. Roberts.

Note.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearboru
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima, Panama Bay, Panama.†		29.94‡	760.6‡	78	25.6	96	NNW			1		3		ESE	0.70 in or 17.8mm	Small	NNE	Squally	Capt. Whitebure.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Common.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.35‡	770.9‡				NW			1		10		NW				Overcast	

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; F. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China.....†		29.68‡	758.9‡	67	30.6	92	SE			1		7cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 46° 49′, W. 151° 07′		30.10‡	764.6‡	52	11.1	79	NNE			3		7ks				3	S	D. clouds	J. G. Cameron.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 40′, W. 37° 18′		29.69‡	751.6‡	63.6	17.6	78	Calm			0		5		N	¼ h'r	Smooth	NW	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 55′, E. 1° 00′		29.80‡	756.9‡				SW			5		5		SW		5	W	Cloudy?	Capt. G. Meyer.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Indiana. N. 51° 28', W. 16° 06'		29.36‡	745.7‡	56	13.3	87	W			8		5		W	Heavy	Mod'ate	W	Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, Boston Light, Mass.		29.87‡	758.7‡	68	20.0	95	SW	3	1.3			8ks		SW	0			Misty	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			N. B. Foss.
Brigantine "George of Halifax"																			Capt. George Gardner.
Schooner Harry and Fred.																			
§Iron Cross N. 25° 38', W. 32° 10'		30.13‡	765.3‡	79	26.1	82	NE			3		3				5	N	D. clouds	Capt. W. Randall. Capt. P. Sandelin. L. Dunbar.
Nordenskiold of Sundsvall, Sweden																			
Sch'r A. A. Rowe, Capt. Beckwith																			

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.08	764.0	69.3	20.7	85	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.08	764.0	83.5	28.6	64	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Kesxnche.
Algiers	.....	.....	30.06	763.5	83.5	28.6	60	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.04	763.1	87.6	30.9	78	N	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.13	765.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	763.1	92.3	33.5	17	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.05	763.3	96.6	35.9	19	NW	.....	.....	1	.....	2	.....	.....	0.008	0.2	Fair	Watrin.
Geriville	.....	.....	.....	.....	71.4	21.9	36	SSE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.04	763.0	102.0	39.:	24	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	29.97	761.3	104.0	40.0	31	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.44	747.8	29.96	761.0	83.8	28.8	54	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.28	743.6	30.01	762.2	79.5	26.4	50	E	7.8	3.5	.....	.....	2	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.15	740.5	29.99	761.8	77.7	25.4	58	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.83	732.3	30.04	763.0	70.0	21.1	85	NW	.....	.....	3	.....	9	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.64	727.4	29.99	761.8	78.8	26.0	64	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.73	729.7	30.02	762.5	72.0	22.2	79	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.0	30.00	762.0	75.2	24.0	63	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Staneckl.
Pola	29.89	759.3	30.00	762.1	82.6	28.1	66	SSE	.....	.....	3	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.05	753.0	30.10	764.4	81.0	27.2	52	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.74	755.2	30.00	761.9	82.4	28.0	42	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.7	30.01	762.8	83.5	28.6	63	W	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.36	745.7	30.09	764.3	68.5	20.3	80	W	.....	.....	3	.....	8	.....	.....	0.102	2.6	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.56	750.8	29 66	753.4	64.3	17.9	.....	SSW	7	3.1	.....	.....	5	.....	.....	0.096	2.44	D. clouds	W. Boswell.
Ardrossan	29.69	754 1	29.71	754.6	56	13.3	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	Raining	Wm McNeil &G.Carrick
Armagh, Observatory	29.55	750.6	29.77	756.1	60.0	15.6	.....	SW	5	2.2	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.77	756.1	63.9	17.7	.....	NNW	9	4.0	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	29.74	755.4	64.6	18.1	.....	SW	18	8.0	.....	.....	6	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.39	746.5	29.79	756.7	65.1	18.3	.....	W	.....	.....	1	.....	2	.....	.....	0.03	0.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.96	761.0	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.69	754.1	29.78	756.4	60.5	15.8	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.79	756.7	62.1	16.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.67	750 6	29.80	756.9	61.7	16.5	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.71	754.6	29.75	755.6	65	18.3	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.80	756.9	29.83	757.7	61	16.1	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.60	749.3	29.73	755.1	64.2	17.9	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	84	28.9	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.75	755.6	62	16.7	.....	WSW	.....	.....	3	.....	4	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.02	762.5	30.07	763.8	79.2	26.	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.50	749.3	29.71	754.6	60.9	16.1	.....	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.83	757.7	29.84	757.9	60	15.6	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.61	752.1	29.78	756.4	60.5	15.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.56	750.8	29.77	756.1	66	18.9	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.75	755.6	29.86	758.4	65	18.3	.....	WNW	.....	.....	0	.....	4k	.....	.....	0.50	12.7	Fair	M. P. Moyle.
Holyhead	29.80	756.9	29.81	757.2	60	15.6	.....	NW	.....	.....	8	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.54	750.3	29.83	757.7	63.2	17.3	.....	SSW	.....	.....	5	.....	9	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.74	755.4	29.78	756.4	61.0	16.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum.	29.52	749.8	29.77	756.1	64.6	17.8	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.93	760.5	30.02	762.5	82.2	27.9	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.47	748.5	29.56	750.8	64	17.8	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29 96	761.0	84.5	29.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.60	751.8	29.79	756.7	60.2	20.7	.....	NE	.....	.....	1	.....	3ck	.....	NE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.77	756.1	64.9	18.3	.....	E	.....	.....	1-2	.....	8	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.74	755.4	65	18.3	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.65	753.1	29.72	754.9	62.6	16.9	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.76	755.9	29.88	758.9	62	16.7	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.62	752.3	29.78	756.4	60	15.6	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.62	752.3	57.4	14.1	.....	WSW	19	8.5	.....	.....	2	.....	.....	.....	.....	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.07	761.2	30.04	762.7	84.0	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds	Serg't. W. H. Lyne.
Sheffield	29.52	749.8	29.79	756.7	69.1	20.6	.....	SW	.....	.....	2	.....	3	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.75	755.6	29.78	756.4	63.4	17.4	81	W	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.77	756.1	63.0	17.2	.....	WSW	10	4.5	.....	.....	7	.....	.....	Blank	Blank	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	60.0	15.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Rev. C.H.Griffith,F.M.S.
Truro, Royal Institution	29.64	752.8	29.75	755.6	66	18.9	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.79	756.7	29.82	757.4	60.8	16.0	.....	W	11	4.9	.....	.....	4	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.98	761.5	63.2	17.3	.....	NNW	6.0	2.7	.....	5	10	.....	.....	0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.75	755.6	64.0	17.8	.....	W	.....	.....	4	.....	8k	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.4	71.0	21.7	72	ESE	15.0	6.7	.....	0	4	.....	E	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767 3	54.3	12.4	82	NNE	7	3.1	.....	.....	8	.....	.....	0.01	0.3	Thunder&light'g	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.63	752.6	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 9 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel. Height scale 0—9	Sea or swel. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00′ E. 28° 35′	.....	.....	30.051	763.31	75.2	24.0	.....	NE	.....	.....	4	.....	6	.....	.....	.....	.....	Raining	Capt. W. J. L. Wharton.
German Brig "W. von Freeden" N. 48° 25′, W. 22° 05′	.....	.....	29.81	757.2	62	16.7	.....	NW	.....	.....	2	.....	8	.....	.....	3	Confused	Drizzling	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	65 8	18.8	98	Calm	.....	.....	0	9s;d	.....	.....	.....	0.5	3.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.1	29.89	759 3	60.8	16.0	99	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	29 87	758.7	29.89	759.2	64.0	17.8	76	WSW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.58	751.2	29.62	752.3	.....	.....	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	.....
Stykkisholm (Iceland)	29.45	747.9	29.49	749.0	50.4	10.2	72	NE	.....	.....	7	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.34	745.0	29.37	745.9	54.3	12.4	80	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.72	754 9	29.83	757.7	62.8	17.1	82	SW	.....	.....	6	.....	4	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.41	747.1	29.97	761.1	64.0	17.8	88	S	.....	.....	1	.....	10	.....	.....	0.016	0.4	Raining	Colignon, Director.
Amiens, Normal School	29.82	757.5	29.93	760.2	68.0	20	72	S	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.67	753.6	29.92	759.9	65.7	18.7	72	SW	.....	.....	3	.....	.....	.....	WSW	0.146	3.7	.....	Klein, Commandant.
Avignon, Normal School	29.92	760.0	30.00	762.0	68.7	31.5	35	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.49	749.0	30.03	762.7	71.1	21.8	53	S	.....	.....	1	.....	10m	.....	SW	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.70	754.4	29.95	760.9	66.9	19.4	76	S	.....	.....	2	.....	10	.....	SW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.26	743.3	30.13	765.3	73.4	23	59	S	.....	.....	2	.....	2	NE	.....	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.5	30.08	764.1	74.3	24.5	66	N	.....	.....	1	.....	5n	NW	NW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.41	747.7	29.97	761.2	70.5	21.2	63	SW	.....	.....	1	.....	n	SW	SW	.....	.....	.....	M. Gence, Director.
Brest, Naval Observatory	29.52	749.8	29.76	756.0	64.8	18.2	88	SW	.....	.....	2	.....	10	.....	SW	0.276	7.00	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.8	30.04	763.0	86.9	30.5	30	W	.....	.....	1	.....	2	W	W	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.74	755.5	29.82	757.4	65.8	18.8	79	SW	.....	.....	3	.....	8	.....	SW	0	0	Very cloudy	M. Bletrin, Director.
Chartres, Normal School	29.43	747.5	29.98	761.4	65.8	18.8	72	S	.....	.....	3	.....	10	.....	S	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.05	763.2	73.0	22.8	65	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.71	729.1	30.01	762.0	77.4	25.2	48	E	.....	.....	1	.....	5	.....	.....	0.118	3.0	.....	Alluard, Director.
Commercy, Normal School	29.22	742.1	30.05	763.2	73.4	23	68	W	.....	.....	1	.....	5esn	W	W	0.067	1.7	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.95	735.4	30.10	764.4	85.1	29.5	29	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.29	744.0	30.08	762.7	75.2	24.0	67	NW	.....	.....	3	.....	n	.....	.....	0	0	.....	Allard, Director.
La Roche-sur-Yon, N. School	29.82	757.5	30.04	762.9	65.7	18.7	90	SSW	.....	.....	5	.....	5	.....	SSW	0.012	0.3	Raining	Mouillot, Director.
Le Mans, Normal School	29.65	753.2	29.96	760.9	63.5	17.5	88	SSW	.....	.....	2	.....	5	.....	SSW	0.059	1.50	Cloudy	Perrier, Director.
Lons-Le-Saulnier, N. School	29.22	742.2	30.11	764.8	73.8	24.3	64	N	.....	.....	1	.....	n	N	N	0.87	22.	.....	A. Baudry, Director.
Lorient, Naval Observatory	29.73	755.1	29.83	757.7	62.6	17.0	100	SW	.....	.....	5	.....	.....	.....	SW	0.614	15.60	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.46	748.2	30.05	763.3	76.6	24.8	53	ESE	.....	.....	1	c	k	.....	W	0.394	10.0	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gaizin Director.
Marseilles, Observatory	29.78	756.1	29.99	761.8	80.2	26.8	52	WSW	.....	.....	2	.....	2	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	29.84	757.6	30.05	763.2	72.0	22.2	67	SW	.....	.....	1	.....	8cn	SSE	SSE	.....	.....	Very cloudy	Barbier, Director
Mont-Louis	25.00	635.0	30.32	770.0	71.6	22.0	53	SW	16.8	7.5	.....	.....	.....	.....	.....	0	0	Cloudy	M. Cave
Nice	29.99	761.8	30.03	762.7	81.0	27.2	69	S	.....	.....	1	.....	5	S	S	0	0	Misty	M. Boissiéré, Director.
Nismes, Normal School	29.80	757.0	29.99	761.8	93.6	34.2	56	SW	.....	.....	1	.....	5	.....	S	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	.....	.....	29.72	754.9	65.5	18.6	70	SSW	.....	.....	3	.....	10	.....	.....	0.020	0.5	Sprinkling	Marie Davy, Director
Pic du Midi (Summit) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P	22.77	577.6	.....	.....	58.5	14.7	.....	NW	.....	.....	1	.....	1	.....	NW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.95	760.6	30.05	763.2	80.8	27.1	41	SE	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Dr Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.1	.....	.....	52.0	11.1	82	W*	.....	.....	1	.....	5	.....	.....	0.413	10.5	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.98	761.6	30.02	762.4	76.5	24.7	54	SW	.....	.....	5	.....	10	SW	SW	0.12	3.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.84	757.8	29.92	760.0	64.0	17.8	87	SSE	.....	.....	2	.....	10	.....	S	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.75	755.6	29.78	756.4	63.1	17.3	98	SSE	.....	.....	2	.....	10	S	S	0.247	6.28	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.84	757.7	30.00	762.0	66.0	18.9	76	S	.....	.....	2	.....	10	W	SW	0.181	4.6	.....	E. Renou, Director.
Tarbes, Normal School	29.67	738.3	30.12	765.0	71.6	22	82	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director
Toulouse, Observatory	29.39	746.5	30.11	764.9	79.9	26.6	45	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.80	757.0	30.00	762.0	68 0	20.0	78	WSW	.....	.....	1	.....	10	.....	W	0	0	Rainy	Cousin-Marquet.
Versailles, Observatory	29.51	749.5	30.00	762.0	66.9	19.4	65	SW	.....	.....	3	.....	10	.....	.....	0.196	4.98	Light rain	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.30	745.8	30.05	763.3	74.5	24.0	66	ENE	.....	.....	1	.....	2	.....	NE	0.38	10.	Slightly cl'dy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	77.7	25.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchésl.
Zi-Ka-Wei (near Shanghai)	29.84	758.0	29.87	758.6	77.5	25.3	91	ESE	9.2	4.1	.....	4cs	.....	W	.....	0	0	Cloudy	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (Pl. Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grésque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Grésque, 822 m., or 1,066 ft.. Puy de Dome, (Summit) 1,467 m., or 4,812 ft., Tarbes, 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit 2,877 m., or 9,436 ft.. Pic du Midi, (Plantade) 2,386 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.310 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.20	741.6	30.04	763.0	72.5	22.4	63	SW	.....	.....	1	.....	5	.....	.....	0.535	13.6	.....	Prof. Dr. Hoh.
Berlin	29.84	757.8	30.00	762.0	75.2	24.0	60	SW	.....	.....	1	.....	7	.....	.....	0.268	6.8	.....	Prof. Dr. Arndt.
Breslau	29.54	750.2	30.07	763.7	70.0	21.1	74	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Royal University Ob'y.
Carlsruhe	29.62	752.3	30.03	762.6	73.4	23.0	63	SSW	.....	.....	0	.....	9	SW	.....	0.091	2.3	.....	Albert Senz.
Cassel	29.44	747.8	30.05	763.3	74.1	23.6	57	SSE	.....	.....	4	.....	5	WSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.81	757.1	29.97	761.2	75.7	24.3	47	S	.....	.....	4	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.92	759.9	69.6	20.9	62	W	.....	.....	1	.....	5	.....	.....	0.189	4.8	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.67	753.7	30.03	762.8	75.6	23.5	.....	SSW	.....	.....	1	.....	7	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.65	727.8	30.04	763.1	70.9	21.6	76	SSW	.....	.....	3	.....	3	WSW	.....	0.150	3.8	.....	M. Wilhelm.
Hamburg	29.91	759.6	29.97	761.3	69.1	20.9	69	SW	.....	.....	4	.....	3ck	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	29.93	760.2	29.95	760.6	68.5	20.3	60	W	.....	.....	4	.....	4	.....	.....	0.180	4.56	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.80	756.8	29.87	758.8	79.5	26.3	59	W	.....	.....	5	.....	6	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	29.95	760.6	65.5	18.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0.524	13.3	.....	H. Müller.
Leipsic Observatory	29.61	752.2	30.02	762.5	75.0	23.9	60	SW	.....	.....	2	.....	6	SW	.....	0.468	11.9	.....	Prof. Bruhns, Privy Counselor.
Memel	29.87	758.6	29.91	759.8	75.2	24.0	67	S	.....	.....	4	.....	8s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.28	718.2	30.15	765.7	72.0	22.2	57	N	.....	.....	2	.....	4	W	.....	1.472	37.4	.....	Dr. C. Lang.
Neuhahrwasser	29.91	759.7	29.93	760.1	65.7	18.6	20	N	.....	.....	4	.....	10	.....	.....	0.441	11.2	.....	A. Lothes.
Posen	29.66	753.4	29.95	760.6	66.2	19.0	79	NW	.....	.....	6	.....	9	.....	.....	0.248	6.3	.....	Dr. Magener.
Strassburg (in Alsace)	29.53	750.1	30.06	763.5	76.1	24.5	55	S	.....	.....	2	.....	8	W	.....	1.046	26.66	.....	Imp. University Observatory.
Stuttgart	29.10	739.1	30.00	762.0	74.8	23.8	62	E	.....	.....	1	.....	8	W	.....	0.024	0.6	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.59	726 3	30.05	763.3	70.0	21.1	66	Calm	0	0	.....	....	8ck	.....	NW	0.433	11.0	.....	T. Hopfner.
Wustrow	29.93	760.9	29.96	760.9	70.7	21.5	71	ESE	.....	.....	3	.....	5k	.....	.....	0.043	1.1	.....	E. Schutz, Director
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.66	753.3	30.03	762.8	85.6	29.8	.....	NE	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.59	751.5	29.64	752.8	83.1	28.4	71	W	29.0	13.0	.....	.....	7	W	W	0.09	2.3	D. clouds	
Dersa	29.24	742.6	29.71	754.6	81.9	27.7	77	SW	8.0	3.6	.....	.....	6	SW	.....	0	0	D. clouds	
Bombay	29.73	755.1	29.77	756.1	78.8	25.8	90	W	16.0	7.2	.....	.....	10	.....	W	0.80	20.3	Overcast	
Poona	27.92	709.2	29.80	756.8	71.0	21.7	93	W	10.0	4.6	.....	.....	10	Calm	W	0.38	9.6	Drizzling	
Lahore	28.89	733 9	29.63	752.5	85.0	29.4	74	SE	5.3	2.4	.....	.....	3	.....	.....	0.63	16.0	D. clouds	
Belgaum	27.28	693.0	29.86	758.5	67.2	19 6	98	W	19.0	8 6	.....	.....	10	.....	W	0.24	6.1	Drizzling	
Roorkee	28.76	730.4	29.65	753 0	81.0	27.7	80	E	1.0	0.4	.....	.....	7	.....	.....	0	0	D. clouds	
Agra	29.06	738.1	29.62	752.2	83.7	28 7	79	NE	.....	.....	.....	.....	5	.....	E	0	0	.....	
Nagpur	28.58	726.0	29.62	752.4	78.2	25.7	89	W	3.2	1.4	.....	.....	10	.....	SE	0.38	9.6	Overcast	
Lucknow	29.27	743.4	29.64	752.9	83.3	28.5	87	SW	3.0	1.3	.....	.....	10	.....	.....	0.43	10.9	Overcast	
Allahabad	29.30	744.3	29.61	752.1	84.9	29.4	83	Calm	2.7	1 2	.....	.....	7	.....	.....	0.16	4.1	D. clouds	
Patna	29.46	748 2	29.64	752.7	84 4	29.1	82	E	2.3	1.0	.....	.....	6	E	E	0	0	D. clouds	
Hazaribagh	27.63	701.7	29.63	752.6	77.1	25.0	88	E	8.8	3.9	.....	.....	6	.....	E	0.13	3.3	Showery	
Cuttack	29.53	750.0	29.61	752.1	82.8	28.2	81	ESE	1.0	0.4	.....	.....	6	.....	.....	0.04	1.0	D. clouds	
Calcutta (Alipore)	29.63	752.6	29.65	753.2	80.2	26.8	91	SE	6.0	2.7	.....	.....	5	.....	SSE	0	0	D. clouds	
Goalpara	29.31	744.5	29.70	754.3	81.5	27 4	81	Calm	3.8	1.7	.....	.....	7	.....	.....	0.42	10.7	D. clouds	
Chittagong	29.68	753.9	29.77	756.2	80.4	26 9	87	SE	6.0	2.7	.....	.....	4	.....	.....	0.03	0.8	.....	
Sibsagar	29.38	746.3	29.71	754.7	85.2	29.6	79	SW	3.7	1.6	.....	.....	7	W	W	1.30	33.0	D. clouds	
Jubbulpore	28.25	717.6	29.60	751.9	82.2	27.9	77	N	1.9	0.8	.....	.....	3	.....	E	0.32	8.4	D. clouds	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,561 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature. Inches.	BAROMETER. Corrected or instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Low'r. —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Udine	29.52	749.8	29.91	759.8	83 6	28.5	50	S	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	748.8	29.98	761.4	84.2	29.0	52	SSW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.88	759.0	29.99	761.7	82.9	28.3	60	ENE	6.5	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.12	739.6	29.99	761.7	79.2	26.2	52	WSW	1 3	0.6	.....	.....	3	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.5	30.01	762.2	80.4	26.9	68	SW	4.0	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.15	715.0	29.98	761.4	79.0	26.1	49	N	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.83	760.3	29.98	761.5	79.5	26.4	85	N	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.5	29.99	761.8	88.7	31.5	40	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.6	29.99	761.7	83.1	28 4	66	WSW	6.8	2.8	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.86	758.5	30.03	762.8	86.7	30.4	48	W	13.0	5.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.76	755.9	30.00	762.1	85.6	29 8	46	E	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.15	740.3	29.99	761.7	91.4	33.0	59	NE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.5	30.01	762.2	84.4	29.1	68	SE	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.5	30.03	762.7	80 2	26.8	68	ENE	6.8	2 8	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.98	761.4	30.05	763.2	86 2	30.1	64	SE	4.0	2.2	.....	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.60	749.3	30.06	763.4	86.4	30.2	65	WSW	4 8	1.9	.....	.....	7	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 478.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758 9	29.91	759.4	78.8	26.0	91	Calm	0	0	.....	.....	0	.....	.....	0.294	7.47	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.71	754.6	29.90	759 4	79.9	26 6	85	NNW	1 0	0.5	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.89	759.2	29.93	761.0	72 8	22.7	95	SE	2.0	0.9	.....	.....	10s	.....	.....	1.770	44.96	Cloudy	The Staff.
Wakayama	29.84	757.9	29.89	759.2	80.0	26.7	80	SW	1.9	0.8	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.89	632.2	29.83	757.7	80.8	16.0	81	NW	.....	.....	2	.....	9	.....	Calm	0.60	15.2	Very cloudy	Prof. L. Peres.
Leon	24.27	616.5	29.85	758.2	64.0	17 8	94	SE	.....	.....	1	7ck	0	E	.....	0.59	15.0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	22.92	58 .2	29.80	757.0	59.0	15.0	88	Calm	0	0	.....	1c	9k	.....	S	0.22	5.5	Very cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	63.7	17.6	90	NW	.....	.....	1	1c	6ks	E	E	0.04	1.0	Cloudy	M. V. de Leon, M. E.
Tlacotalpam	29.73	755.2	29.74	755.5	77.0	25 0	91	S	.....	.....	1	.....	5	.....	SW	0	0	½ Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.06	611.1	29.89	759.3	64.9	18.3	46	E	.....	.....	2	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.48	571.0	30.01	762.2	58.1	14.5	94	Calm	.....	.....	0	2ks	0	Calm	.....	0	0	Clear	A. Nuñez.
Puebla (Catholic Institute)	23.31	592.0	29.88	759.0	55.6	13.1	81	SE	0.2	0 1	.....	.....	10k	.....	S	0.99	25.2	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.43	747.6	29.72	754.9	76 3	24.6	98	NE	.....	.....	2	1c	8n	Calm	SE	0.25	6.4	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,554.5 m., or 5,100.7 ft.; Guadalajara, 1,589.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.4 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.8 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.6	29.91	759.6	69.4	20.8	.....	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.87	758.7	29.93	760.1	67.1	19.5	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.90	759.6	29.91	759.6	64.2	17.9	.....	S	.....	.....	1	.....	.....	.....	.....	0.56	14.4	.....	
Hellevoetsluis	29.91	759.7	29.91	759.7	72 9	22.7	61	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.89	759.3	29.94	760.5	71.3	21.8	63	SSW	.....	.....	3	.....	5	.....	.....	0.142	3.6	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.53	750.1	29.59	751.5	61.2	16.2	75	SW	15.2	6.8	.....	.....	10	.....	.....	0.551	14.0	Raining	
Brönö	29.43	747.4	29.47	748.4	60.3	15.7	62	ENE	9	4	.....	.....	8	.....	.....	0.665	16.9	.....	
Christiania	29.52	749.8	29.66	753.4	66.7	19.3	61	SSW	16	7	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.50	749.3	29.54	750.4	60.1	15.6	69	Calm	0	0	.....	.....	10	.....	.....	0.264	6.7	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.98	761.5	30.17	766.2	75.2	24.0	90	W	8.7	3.9	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.12	739.6	30.09	764.2	66.7	30.4	19	WSW	4.9	2.2	.....	.....	2	WSW	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	73.9	23.3	55	SW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.83	757.7	30.18	766.5	78.6	25.9	40	NNW	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.15	765.9	30.24	768.1	80.2	26.8	75	SW	9.4	4.2	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias			.....	A. G. da Silva Costa, Com'd't.
D. Fernando			.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira			.....	J.C. M. Cabrate, 1st L't. J. F. R. R. Bastos, Com'd't.
Mindello			.....	
Quanza, Capt. A.J.de Mattos. Mossamedes, Lower Guinea			D. clouds	H. de C. C. e Athayde. J.T.d'Oliveria, Com'd't.
Rio Duro			.....	
Rio Lima. Capt. S. C. da Silva Costa. Saldanha, Cape Verd I.			D. Clouds, 10 minutes rain-fall	A. A. A. Loureiro. F. Teixeira da Silva, Com'd't. H. Mecudonco, 2nd Lieut.
Sá da Bandeira			.....	
Sado, Capt. J. A. de Brito Capello			.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China			Blue sky	J.G. Felgo 2nd Lieut.
.....			.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.53	750.1	29.93	760.3	75.6	26.6	64	SSE	11	5	.....	.....	8ks	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Wilna	29.64	752.8	30.04	762.9	75.7	24.3	40	S	11	5	.....	.....	3	.....	.....	.....	.....		Astronomical Obs.
Dorpat	29.71	754.7	29.95	760.6	75.7	24.8	44	SSW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Prof. Dr. Weilhrauch.
St. Petersburg	29.93	760.2	29.95	760.6	74 ?	23.6	50	SW	13	6	.....	.....	4ks	.....	.....	.....	.....		Central Physical Obs.
Kieff	29.49	749.1	30.11	764.7	73.2	22.9	47	S	4	2	.....	.....	8k	.....	.....	.....	.....		Physical Cabinet.
Nikolaiev	30.08	764.1	30.15	765.9	79.0	26.1	39	Calm	0	0	.....	.....	3k	.....	.....	.....	.....		Kurdakof.
Kertch	30.15	765.7	30.17	766.2	66.7	19.3	87	N	4	2	.....	.....	6	.....	.....	.....	.....		Lagorio.
Moscow	29.59	751.5	30.12	765.0	71.4	21.9	54	SW	7.8	3.5	.....	.....	8ks	.....	.....	.....	.....		Meteorological Obs.
Lugan	29.75	756.4	29.98	761.4	75.2	24.0	46	N	9	4	.....	.....	8	.....	.....	Blank	Blank		Meteorological Obs.
Archangel	29.89	759.2	29.91	759.7	56.3	13.5	69	SE	4	2	.....	.....	10	.....	.....	.....	.....		Capt. Sselwerstow.
Tiflis	28.48	723.3	29.83	757.6	76.8	24.9	37	NW	31	14	.....	.....	1s	.....	.....	.....	.....		Physical Observatory.
Astrakhan	29.87	758.8	29.79	756.7	66.4	19.1	58	NNW	22	10	.....	.....	19sn	.....	.....	Blank	Blank		Capt. Wisganow.
Krotkowo*	29.42	747.3	29.88	758.9	63.1	17.3	64	NNW	18	8	.....	.....	8k	.....	.....	.....	.....		Cand. Fatjanow.
Kasan	29.66	753.4	29.93	760.1	59.7	15.3	47	NNW	9	4	.....	.....	8ks	.....	.....	.....	.....		Physical Cabinet.
Ekaterinburg	28.76	730.4	29.71	754.5	52.7	11.5	81	NE	9	4	.....	.....	10	.....	.....	.....	.....		Meteorological Obs.
Nukuss	29.34	745.1	29.55	750.6	87.1	30.6	31	WNW	16	7	.....	.....	0	.....	.....	.....	.....		
Tashkend	28.06	712.7	29.51	749.6	87.8	31	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....		Teich, A. M.
Barnaul	29.22	742.1	29.70	754.4	56.3	13.5	82	NW	0	0	.....	.....	10	.....	.....	.....	.....		Meteorological Obs.
Yeniseisk	29.60	751.7	29.87	758.6	58.6	14.8	81	NNE	2	1	.....	.....	2	.....	.....	.....	.....		Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Peking (China)	29.68	753.8	29.82	757.4	78.4	25.8	77	Calm	0	0	.....	.....	1k	.....	.....	.....	.....		Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Vladivostock	29.84	757.9	29.94	760.4	71.5	21.8	83	SE	13	6	.....	5c	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.94	760.5	30.04	763.0	82.4	28	62	SW	2.4	1.06	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.03	762.7	30.12	765 1	84.7	29.3	37	N	2.5	1.11	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.20	690.9	.....	.....	79.2	26.2	33	W	5.4	2.43	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708.8	29.98	761.6	90.9	32.7	18	SW	12.0	5.34	.....	1	0	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.92	759.9	30.06	763.5	90.5	32.5	23	SE	2.9	1.28	.....	0	4	.....	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.22	742.2	30.10	764.6	64.9	18.3	96	SSW	15.0	6.7	.....	.....	10	.....	.....	0.043	1.1	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.83	757.7	29.90	759.4	81.5	27.5	81	ESE	3.4	1.5	.....	10pc	1k	.....	.....	0.327	8.3	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.74	755.5	29.79	756.8	84.2	29.0	93	ESE	11.2	5.0	.....	.....	10	.....	E	0.669	17.0	Raining	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.1	30.10	764.5	80.2	26.8	54	WNW	12.9	5.8	.....	0	1	.....	WNW	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.88	759.0	29.97	761.3	80.2	26.8	79	SE	2.2	1.00	.....	3ks	2k	SE	SE	0.030	0.75	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature,		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—	Inches.	Millimeters.		
Haparanda	29.51	749.6	29.55	750.6	64.0	17.8	.....	S	.....	.....	6	.....	7	.....	.....	0.236	6.0	.....	
Umea	29.56	750.7	29.61	752.0	65.8	18.8	73	SW	.....	.....	6	.....	9	.....	.....	0	0	.....	
Hernosand	29.56	750.9	29.61	752.2	68 7	20.4	50	SW	.....	.....	6	.....	6	.....	.....	0.039	1.0	.....	
Stockholm	29.63	752.6	29.81	757.1	66.6	19.2	74	SW	.....	.....	4	.....	10	.....	.....	0.846	21.5	.....	
Wisby	29.75	755.7	29.81	757.2	63.7	17.6	84	WNW	.....	.....	4	.....	10	.....	.....	0.138	3 5	.....	
Sub-Series.																			
Upsala	29.76	755.9	29.77	756.1	66 7	19.3	67	SW	11.6	5.2	.....	.....	7	.....	.....	0.010	0.25	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.07	728.2	30.04	763.1	72.7	22.6	59	E	.....	.....	3	.....	8	.....	.....	0.157	4.0	Cloudy.....	The Observatory.
Zurich	28.47	723.1	30.04	763.1	73.4	23.0	67	W	.....	.....	1	.....	8	.....	.....	0.094	2.4	Fair.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.5 mm.; Thermometer, +1.5 Cent.; Relative Humidity, +3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.5	76.8	24.9	49	ENE	16	7.0	.....	.....	4	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.2	91.6	33.1	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.69	754.4	29.80	756.9	82.9	28.3	60	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C.V.A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chatham, N. B	29.47	748.6	29.52	749.8	60	15.6	98	Calm	0	0	.....	.....	Fog	.....	Calm	0.92	23.4	Foggy	W. R. Bigg.
Charlottetown, P. E. Island	29.67	753.3	29.82	752.8	64	17.8	94	SE	17	7.6	.....	.....	10s	.....	.....	0.180	4.57	Cloudy.....	G. A. Bain.
Cornwall, Ontario	29.31	744.6	29.50	749.8	68.6	20.3	85	W	.....	.....	8	.....	9s	.....	.....	0.039	0.99	Cloudy.....	H. J. Cundall, C. E.
Dalhousie, N. B	29.37	746.0	29.53	750.0	54	12.2	97	E	.....	.....	3	.....	10n	.....	.....	1.12	28.4	Light rain...	James Smith, M. A.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
*Father Point, Quebec	29.31	744.6	29.33	745.0	48	8.8	100	E	20	8.9	.....	.....	10n	.....	S	0.01	25.7	Light rain...	W. H. Bevis.
Fredericton, N. B	29.47	748.5	29.54	750.3	61.6	16.4	92	SE	10	4.5	.....	.....	10n	.....	.....	Imp.	Imp.	Misty.....	J. McWilliams.
*Fort Garry, Manitoba	29.12	739.6	29.98	761.2	54	12.2	93	E	6	3.6	.....	5k	5ks	W	Calm	0.370	9.40	Cloudy.....	Prof. Harrison.
Granton, Ontario	28.71	729.2	29.77	756.1	63	17.2	94	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Stewart.
*Halifax, N. S	29.68	753.8	29.71	754.6	61	16.1	98	SW	1	0.4	.....	.....	Fog	.....	.....	0.237	6.02	Foggy	James Grant.
Hamilton, Ontario	29.43	747.5	29.78	756.4	66.7	19.3	82	W	.....	.....	2	1c	0	W	.....	0	0	Clear.....	F. Allison, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Dickson, A. M.
*Kingston, Ontario	29.28	743.7	29.60	751.8	70	21.1	82	W	17	7.6	.....	2k	0	W	.....	0.18	3.3	Clear.....	E. Weedon.
Little Glace Bay, N. S	29.70	754.4	29.74	755.4	60.0	15.6	97	S	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Showery.....	S. Woods, M. A.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
*Montreal, Quebec	29.30	744.2	29.49	749.0	69	20.6	85	SW	13	5.8	.....	2k	8ks	W	W	0.08	2.0	Cloudy	J. R. Nason
*Parry Sound, Ontario	29.00	736.6	29.67	753.6	64	17.8	86	W	16	7.2	.....	2ck	0	W	.....	1.16	29.5	Fair.....	C. H. McLeod, C. E.
Peterboro, Ontario	28.96	735.6	29.68	753.9	67.7	19.8	77	W	.....	.....	3	0	6ks	.....	.....	0.11	2.8	Fine.....	Rev. R. Mosley.
Port Dover, Ontario	29.12	739.6	29.78	756.4	65	18.3	89	W	6	2.7	.....	0	0	.....	.....	0.11	2.8	Fine.....	J. F. Jeffers, B. A.
Port Hastings, N. S	29.92	752.3	29.60	753.4	63.6	17.6	.....	SW	8	3.6	.....	.....	.....	.....	.....	0	0	Clear.....	H. Morgan.
Port Stanley, Ontario	29.16	740.7	29.79	756.7	63	17.2	90	W	3	1.3	.....	2ck	Haze	W	.....	0.50	12.7	Raining	Peter Grant.
*Quebec, Quebec	29.09	738.9	29.40	746.7	53	11.7	100	Calm	.....	.....	0	.....	10n	.....	Calm	0	0	Clear.....	M. Payne.
*Rockliffe, Ontario	29.13	739.9	29.67	761.1	66	18.9	74	NW	6	2.7	.....	0	5ks	.....	NW	1.81	46.0	Cloudy.....	Capt. Ashe, R. N.
St. Andrews, N. B	29.48	748.8	29.58	750.0	59	15	99	SW	.....	.....	1	.....	Fog	.....	.....	1.37	44.8	Fair.....	W. H. McIntyre.
St. John, N. B	29.42	747.3	29.68	753.8	55	12.8	100	S	11	4.9	.....	.....	Fog	.....	.....	0	0	Dense fog....	Dr. Gove.
*Saugeen, Ontario	29.08	737.3	29.71	754.6	65	18.3	77	SW	9	4.0	.....	8k	0	SW	.....	0.02	0.5	Dense fog...	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	1.5	Cloudy.....	K Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B	29.71	754.6	29.73	755.0	60	15.6	98	SE	6	2.7	.....	.....	10n	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Toronto, Ontario	29.37	746.0	29.74	755.4	67	19.4	69	W	14	6.8	.....	0	2s	.....	W	0.05	1.3	Cloudy.....	T. C. Hill.
Windsor, N. S	29.63	752 6	29.85	758.1	62.9	16.7	80	S	6	2.7	.....	.....	10k;fog	.....	.....	0.04	1.0	Clear.....	Magnetic Observatory.
Woodstock, Ontario	28.64	727.4	29.77	756.1	65.2	18.4	86	SW	7	3.1	.....	2cu;ks	0	W	.....	0.70	17.8	Cloudy.....	Prof. John E. Oram.
Sub-Series.																0	0	Fine.....	Prof. J. Montgomery.
St. Johns, Newfoundland	29.81	757.2	30.06	763.5	52.0	11.1	79	Calm	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army,

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.46	748.3	29.68	754.0	75	23.9	64	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.10	739.1	29.71	754.6	62	16.7	77	W	10	4.5	.....	0	2s	.....	W	1.14	29.0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	54	12.2	93	Calm	0	0	.....	0	0	.....	.....	0.38	9.7	Clear	
Atlanta, Georgia	28.77	730.7	29.86	758.4	72	22.2	95	E	13	5.8	.....	.....	10s	.....	E	0.08	2.0	Cloudy	
Atlantic City, New Jersey	29.80	756.9	29.81	757.2	74	23.3	95	W	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.80	756.9	29.99	761.7	76	24.4	91	SE	2	0.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Baltimore, Maryland	29.79	756.7	29.84	757.9	74	23.3	76	SW	9	4.0	.....	2c	2s	Calm	SW	0.01	0.3	Fair	
Barnegat, New Jersey	29.76	755.9	29.78	756.4	78	25.6	86	W	13	5.8	.....	8c	Haze	W	Calm	0	0	Fair	
Bismarck, Dakota	27.92	709.2	29.77	756.1	66	18.9	78	E	8	3.6	.....	1c	0	Calm	.....	0	0	Clear	
Boerne, Texas	28.22	716.8	29.47	748.5	64	17.8	78	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.03	686.6	29.99	761.7	53	11.7	67	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.51	749.5	29.65	753.1	73	22.8	81	SW	12	5.4	.....	0	8s	.....	NW	Inap.	Inap.	Fair	
Brackettville, Texas	28.53	724.6	29.51	749.5	67	19.4	64	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.79	731.3	29.74	755.4	64	17.8	89	E	12	5.4	.....	5c	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.58	751.3	29.62	752.3	78	25.6	86	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.07	738.4	29.74	755.4	68	20.0	70	W	16	7.2	.....	2cs	0	W	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	67	19.4	42	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.29	744.0	29.56	750.8	73	22.8	63	SW	12	5.4	.....	2ck	8ks	W	W	0	0	Cloudy	
Cairo, Illinois	29.46	748.3	29.83	757.7	72	22.2	95	E	6	2.7	.....	.....	10n	.....	E	0.27	6.9	Light rain	
Campo, California	27.16	689.8	29.73	755.1	45	7.2	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.78	758.9	29.89	759.2	80	26.7	82	SE	12	5.4	.....	2cs	2ks	W	Calm	0	0	Fair	
Cape Henry, Virginia	29.88	758.9	29.90	759.4	78	25.6	73	SW	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.96	761.0	29.98	761.5	81	27.2	78	SW	12	5.4	.....	2cs	0	Calm	.....	0	0	Clear	
Cape May, New Jersey	29.80	756.9	29.83	757.7	75	23.9	85	SW	22	9.8	.....	5c	0	W	.....	0	0	Fair	
Castroville, Texas	28.87	733.3	29.53	750.0	72	22.2	80	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.91	759.7	29.96	761.0	81	27.2	83	SW	2	0.9	.....	5cs	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.13	739.9	29.90	759.4	73	22.8	95	SW	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Chattanooga, Tennessee	29.11	739.4	29.88	758.9	70	21.1	100	NE	7	3.1	.....	.....	10n	.....	NE	1.79	45.5	Light rain	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	48	8.9	63	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.12	739.6	29.78	756.4	70	21.1	75	NE	2	0.9	.....	2c	Haze	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.24	742.7	29.85	758.2	76	24.4	79	SW	7	3.1	.....	.....	10s	.....	W	0	0	Threatening	
Cleveland, Ohio	29.11	739.4	29.80	756.9	70	21.1	80	W	1	0.4	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Coleman City, Texas	27.92	709.2	29.50	749.3	68	20.0	56	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.02	737.1	29.80	756.9	74	23.3	81	SW	3	1.3	.....	.....	10ks;sn	.....	SW;Calm	0	0	Cloudy	
Concho, Texas	27.81	706.4	29.41	747.0	66	18.9	74	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.10	739.1	29.53	750.0	74	23.3	81	N	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.20	741.7	29.81	757.2	70	21.1	85	E	1	0.4	.....	7ck	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.23	640.8	.....	.....	61	16.1	66	Calm	0	0	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	28.84	732.5	29.59	751.6	72	22.2	85	N	4	1.8	.....	5c	2s	Calm	Calm	0	0	Fair	
Denver, Colorado	24.67	626.6	29.89	759.2	54	12.2	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.92	734.6	29.75	755.9	68	20.0	79	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Detroit, Michigan	29.13	739.9	29.77	756.1	66	18.9	74	W	3	1.3	.....	5cs	Sm'e	Calm	Calm	0.01	0.3	Fair	
Dodge City, Kansas	27.26	692.4	29.44	747.8	64	17.8	89	W	12	5.4	.....	.....	8n	.....	Calm	0.64	16.3	Light rain	
Dubuque, Iowa	29.14	740.1	29.82	757.4	63	17.2	89	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.20	741.7	29.86	758.4	63	17.2	72	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	28.86	733.0	29.55	750.6	73	22.8	85	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.45	748.0	29.52	749.8	59	15.0	94	S	9	4.0	.....	.....	Fog	.....	S	0.01	0.3	Dense fog	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	25.99	660.1	.....	.....	74	23.3	40	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.11	739.4	29.78	756.4	70	21.1	80	SW	2	0.9	.....	5c	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.16	740.7	29.79	756.7	60	15.6	77	NW	7	3.1	.....	0	0	.....	.....	0.01	23.1	Clear	
Florence, Arizona	28.18	715.8	29.78	756.4	76	24.4	41	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.66	702.6	29.41	747.0	59	15.0	87	N	5	2.2	.....	2c	0	Calm	.....	0	0	Fair	
Fort Custer	26.73	678.9	.....	.....	.....	.....	.....	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.01	635.2	29.97	761.2	63	17.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.14	740.1	29.61	752.8	76	24.4	77	NE	2	0.9	.....	5cs	0	E	.....	0	0	Fair	
Fort Grant, Arizona	25.06	636.5	29.86	758.4	70	21.1	32	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.55	725.2	29.76	755.9	69	20.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.23	691.6	.....	.....	64	17.8	57	S	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.46	697.5	29.29	744.0	65	18.3	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.50	723.9	29.55	750.6	66	18.9	95	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.89	708.4	.....	.....	61	16.1	82	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	55	12.8	33	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.55	750.6	75	23.9	68	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.55	750.6	29.57	751.1	76	24.4	82	W	8	3.6	.....	Haze	2ks	Calm	Calm	0.51	13.0	Fair	
Graham, Texas	28.59	726.2	29.59	751.6	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.14	740.1	29.75	755.6	73	22.8	76	W	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.72	729.5	29.62	752.3	68	20.0	74	NW	4	1.8	.....	2c	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.07	738.4	29.80	756.9	76	24.4	82	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.59	751.6	29.62	752.3	77	25.0	86	W	11	4.9	.....	0	0	.....	.....	0.13	3.3	Clear	
Jacksboro, Texas	28.55	725.2	29.62	752.3	69	20.6	80	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.94	760.5	80	26.7	82	SE	6	2.7	.....	2cs	0	Calm	.....	0.75	19.1	Fair	
Keokuk, Iowa	29.15	740.4	29.72	754.9	74	23.3	76	SE	3	1.3	.....	1cs	0	W	.....	0.01	0.3	Clear	
Key West, Florida	29.87	758.7	29.90	759.4	84	28.9	75	SE	12	5.4	.....	2k;1lz	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.90	759.4	77	25.0	82	SW	14	6.3	.....	0	0	.....	.....	0.29	7.4	Clear	
Knoxville, Tennessee	28.96	735.6	29.93	760.2	70.5	21.4	98	NE	3	1.3	.....	.....	10n	.....	SE	0.12	3.0	Light rain	
La Crosse, Wisconsin	29.11	739.4	29.84	757.2	65	18.3	78	Calm	0	0	.....	2k	Fog	NW	Calm	0	0	Foggy	
La Mesilla, New Mexico	25.86	656.8	30.01	762.2	63	17.2	67	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.24	742.7	29.56	750.8	80	26.7	51	E	2	0.9	.....	0	0	.....	.....	0	9	Clear	
Leavenworth, Kansas	28.91	734.3	29.71	754.6	71	21.7	75	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.34	745.2	29.68	753.9	71	21.7	100	NE	15	6.7	.....	.....	10n	.....	NE	0.19	4.8	Light rain	
Los Angeles, California	29.36	745.7	29.69	754.1	57.0	13.9	84	N	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Louisville, Kentucky	29.32	744.7	29.85	758.2	75	23.9	77	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.24	742.7	29.89	759.2	76	24.4	77	SW	3	1.3	.....	10ck	0	W	.....	Inap.	Inap.	Cloudy	
Madison, Wisconsin	28.84	732.5	29.77	756.1	68	20.0	85	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.11	739.4	29.79	756.7	60	15.6	82	NW	8	3.6	.....	.....	10ks	.....	NW	0.14	3.6	Cloudy	
Mason, Texas	28.06	712.7	29.72	754.9	68	20.0	79	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.41	747.0	29.73	755.1	72	22.2	100	NE	8	3.6	.....	.....	10n	.....	NE	1.25	31.7	Light rain	
Milwaukee, Wisconsin	29.08	738.6	29.76	755.9	68	20.0	79	NW	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Mobile, Alabama	29.68	753.9	29.72	754.9	78.5	25.8	97	SE	19	8.5	.....	.....	10s	.....	S	3.60	91.4	Cloudy	
Montgomery, Alabama	29.62	752.3	29.84	757.9	77	25.0	90	SE	8	3.6	.....	.....	10ks	.....	S	0.35	8.9	Threatening	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (0—10	Clouds. Amount. Upper. (0—10	Clouds. Amount. Lower. (0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.88	733.5	29.81	757.2	75	23.9	77	S	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Mt. Washington, N. H.	23.49	596.6	29.85	758.2	52	11.1	100	NW	68	30.8	.....	.....	Fog	.....	NW	0.04	1.0	Foggy	
Nashville, Tennessee	29.37	746.0	29.88	758.9	71	21.7	95	Calm	0	0	.....	.....	10n	.....	E	0.58	14.7	Light rain...	
New Haven, Connecticut	29.60	751.8	29.71	754.6	79	26.1	78	SW	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
New London, Connecticut	29.67	753.6	29.72	754.9	75	23.9	81	SW	9	4.0	.....	3ck	Haze	W	Calm	0	0	Fair	
New Orleans, Louisiana	29.58	751.3	29.63	752.6	80	26.7	82	S	12	5.4	.....	5c	5s	S	S	2.12	53.8	Cloudy.....	
Newport, Rhode Island	29.68	753.9	29.73	755.1	69	20.6	90	SW	12	5.4	.....	5c	2s	NW	SW	Imp.	Imp.	Clearing.....	
New York, New York	29.59	751.6	29.76	755.9	73	22.8	85	SW	10	4.5	.....	5cs	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	29.87	758.7	29.92	760.0	79	26.1	74	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.91	683.5	29.87	746.0	61	16.1	82	SE	10	4.5	.....	5c	0	W	.....	0	0	Fair.....	
Olympia, Washington Ter.	29.69	754.1	29.73	755.1	56.0	13.3	90	S	6	2.7	.....	.....	10n	.....	S	0.01	0.3	Light rain..	
Omaha, Nebraska	28.94	727.4	29.66	753.4	75	23.9	77	Calm	0	0	.....	2ck	0	S	.....	0	0	Clear	
Oswego, New York	29.40	746.7	29.70	754.4	68	20.0	74	W	15	6.7	.....	0	5s	.....	W	0	0	Fair	
Pembina, Dakota	29.00	736.6	29.81	757.2	56	13.3	94	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Philadelphia, Pa	29.74	755.4	29.78	756.4	74	23.3	86	SW	11	4.9	.....	5cs	0	Calm	.....	0	0	Fair.....	
Phœnix, Arizona	28.47	723.1	30.16	766.1	75	23.9	37	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.85	453.4	30.06	763.5	33	0.6	61	W	14	6.3	.....	0	Haze	S	.....	0.04	1.0	Hazy	
Pilot Point, Texas	29.07	738.4	29.85	758.2	79	26.1	61	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Ploche, Nevada	23.95	608.3	29.72	754.9	57	13.9	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.06	738.9	29.82	757.4	69	20.6	90	SW	9	4.0	.....	.....	10s	.....	W	0.97	24.6	Cloudy.....	
Port Huron, Michigan	29.12	739.6	29.75	755.6	65	18.3	73	SW	4	1.8	.....	2c	0	NW	.....	0.01	0.3	Clear.....	
Portland, Maine	29.50	749.3	29.54	750.3	74	23.3	81	SW	12	5.4	.....	1k	0	Calm	.....	0.04	1.0	Clear.....	
Portland, Oregon	29.76	755.9	29.83	757.7	61.6	16.4	75	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy.....	
Prescott, Arizona	24.61	625.1	29.97	761.2	49	9.4	37	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	29.89	759.2	29.90	759.4	81	27.2	83	SE	14	6.3	.....	5cs	2ks	SW	Calm	0.03	0.8	Fair	
Red Bluff, California	29.4	746.7	29.75	755.6	64	17.8	73	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.44	747.8	29.65	753.1	77	25.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.13	739.9	29.71	754.6	68	20.0	70	W	18	8.0	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon	29.32	744.7	29.87	758.7	58	14.4	88	E	1	0.4	.....	5k	5s	SW	Calm	0	0	Cloudy	
Sacramento, California	29.67	753.6	29.75	755.6	60	15.6	88	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.24	742.7	29.79	756.7	71	21.7	90	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
St. Marks, Florida	29.87	758.7	29.89	759.2	78	25.6	91	SE	9	4.0	.....	.....	10s	.....	SE	0.14	3.6	Cloudy.....	
St. Paul, Minnesota	29.08	738.1	29.77	756.1	67	19.4	84	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.54	648.7	29.88	758.9	68	14.4	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	28.94	735.1	29.49	749.0	75	23.9	90	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.66	753.4	29.78	756.1	64	17.8	83	S	8	3.6	.....	.....	10s	.....	Calm.	0	0	Cloudy.....	
Sandusky, Ohio	29.16	740.7	29.79	756.7	72	22.2	76	NW	5	2.2	.....	5cs	5s	Calm	Calm	0.06	1.5	Cloudy	
Sandy Hook, New Jersey	29.73	755.1	29.76	755.9	70	26.1	74	W	16	7.2	.....	5c	0	W	.....	0	0	Fair.....	
San Francisco, California	29.73	755.1	29.80	756.9	60	13.3	94	W	8	3.6	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	55	12.8	57	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.88	758.9	29.97	761.2	81	27.2	83	S	3	1.3	.....	10ck	Sm'k	Calm	Calm	0.07	1.8	Cloudy.....	
Shreveport, Louisiana	29.10	739.1	29.31	744.5	73	22.8	100	NE	24	10.7	.....	.....	10n	.....	NE	2.47	62.7	Heavy rain.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.98	761.5	30.01	762.2	80	26.7	87	S	6	2.7	.....	5ck	2ks	NW	S	0.09	2.3	Cloudy.....	
Socorro, New Mexico	25.23	640.8	29.29	744.0	66	18.9	32	Calm	0	0	.....	2ck	0	S	.....	0	0	Fair	
Springfield, Ill	29.16	740.7	29.79	756.7	78	25.6	78	S	3	1.3	.....	5cs	0	W	.....	0	0	Fair.....	
Springfield, Massachusetts	29.55	750.6	29.68	753.9	72	22.2	85	S	4	1.8	.....	5ck	0	W	.....	0	0	Fair.....	
Stockton, Texas	0 77	680.0	29.77	756.1	71	21.7	11	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass.	29.62	752.3	29.67	753.6	65	18.3	100	SW	15	6 7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Toledo, Ohio	29.13	739.9	29.78	756.4	70	21.1	80	Calm	0	0	.....	8c	0	W	.....	0.30	7.6	Fair	
Tucson, Arizona	27.28	692.9	29.83	757.7	77	25.0	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.48	748.8	29.86	758.6	53.6	11.7	61	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	28.75	730.2	29.54	750.3	74	23.3	72	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.34	745.2	29.58	751.3	77	25.0	91	SE	10	4.5	.....	.....	10s	.....	SE	0.29	7.4	Cloudy.....	
Virginia City, Montana	24.22	615.2	29.70	754.4	53	11.7	42	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.36	745.7	29.71	754.6	66	18.9	71	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.73	755.1	29.84	757.9	74	23.3	86	SW	7	3.1	.....	7c	0	W	.....	0.01	0.3	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.90	759.4	29.97	761.2	78	25.6	91	S	4	1.8	.....	8ck	0	Calm	.....	0.03	0.8	Fair.....	
Winnemucca, Nevada	25.54	648.7	29.90	759.4	45	7.2	46	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.68	753.9	29.71	754.6	71	21.7	90	SW	20	8.9	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	28.49	723.6	29.72	754.9	65	18.3	84	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.42	747.3	29.57	751.1	69	20.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.84	757.9	29.89	759.2	82	27.8	87	SE	1.2	0.5	.....	8c	0	Calm	.....	0.28	7.1	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.09	764.3	30.10	764.5	79	26.1	79	N	.....	.....	.....	2c	2cs	S	.....	0.03	0.8	Fine.....	James Gall.
Medellin, Colombia, S. A.*	25.26	641.6	.....	.....	63.0	17.2	89	Calm	.....	0	.....	.....	10n	.....	.....	1.01	25.7	.....	Thomas Herran.
Navassa, W. I	29.85	758.2	29.93	760.2	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guinna, S. A	30.02	762.5	30.02	762.5	80	26.7	82	E	.....	.....	3	8c	5k	E	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I	29.90	759.4	29.93	760.2	80	26.7	82	Calm	0	0	.....	4c	0	SW	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	29.59	751.6	29.60	751.8	83	28.3	79	E	4	1.8	.....	2c	2ks	NE	.....	0	0	Clear.....	G. O. Gellich.
York Factory, B. A.	30.05	763.3	30.10	764.5	47.0	8.3	96	SE	6	2.7	.....	3k	0	N	.....	0	0	Fair.....	I. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m: Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,488 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,208 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,000 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft.,or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329 5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.550 inches., or 47.1 millimeters; Boise City, 2,96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 66.8 mm.; Cheyenne, 5.84 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm., Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Characters.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.60‡	751.8‡	.....	.....	80	26.7	96	SE	25	11.2	.....	.....	10*	.....	SE	2.24	56.9	.....	.....	Storming.....	
Navy Yard, Portsmouth, N. H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.99‡	761.7‡	.....	.....	72.5	22.5	98	NE	.....	....	3	.....	10n;ks	.....	NE	0.14	3.6	.....	.....	Cloudy.....	
Adams. Mare I'd, Navy Yard, Cal.	29.81‡	757.2‡	.....	.....	60	15.6	100	SW	.....	....	1–2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Alaska, N. 24° 27′, W. 110° 28′..*	29.62‡	752.3‡	.....	.....	82	27.8	83	NNW	.....	.....	3	.....	2	.....	.....	0	0	Smooth	.....	Hazy.....	
Alliance, N. 63° 26′, E 3° 00′.	29.87‡	758.7‡	.....	.....	62	16.7	83	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	SW	D. clouds....	
Ashuelot, Yokohama, Japan	29.95‡	761.5‡	.....	.....	73	22.8	95	NW	.....	....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast.....	
Colorado. New York, N. Y.....	29.73‡	755.1‡	.....	.....	74	23.3	86	SSW	4	1.8	....	.....	5	.....	.....	0	0	.....	.....	Misty.....	
Constellation. Buzzard Bay, Mass.....	.....	.....	.....	.....	.....	.....	.....	SW	....	....	5	.....	d	.....	NE	0	0	.....	.....	Hazy.....	
Constitution. Navy Yard, Brooklyn, N.Y.	29.79‡	756.7‡	.....	.....	74	23.3	90	SW	....	.....	3	.....	6	.....	Calm	.....	.....	.....	.....	Pleasant....	
Enterprise, Cowes, England.....	29.76‡	755.9‡	.....	.....	63	17.2	94	WSW	.....	.....	3	.....	10	.....	wsw	.....	.....	Mod'ate	.....	Cloudy.....	
Essex, Rio de Janeiro, Brazil..	30.04‡	763.0‡	.....	.....	71	21.7	90	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Franklin. Norfolk, Va.	29.89‡	759.2‡	.....	.....	75	23.9	81	SW	.....	.....	.....	.....	.....	.....	W	.....	.....	.....	.....	Fair.....	
Hartford Rio de Janeiro, Brazil...	30.05‡	763.3‡	.....	.....	75	23.9	64	NNW	.....	....	2	.....	5?	.....	N	0	0	.....	.....	Clear?.....	
Independence, Mare I'd. Navy Yard, Cal.	29.82‡	757.4‡	.....	.....	62	16.7	88	SSW	4.8	2.1	.....	.....	5?	.....	SW	.....	.....	.....	.....	Clear?.....	
Kearsarge, St. Johns, New Foundland.	29.95‡	760.7‡	.....	.....	50	10.0	86	Calm	.....	....	0	.....	3	.....	.....	.....	.....	.....	.....	Clear.....	
Lackawana. Apia, Samoa Is.....†	29.86‡	758.4‡	.....	.....	77	25.0	91	NNE	.....	.....	1	.....	8	.....	E	.....	.....	Smooth	.....	Cloudy.....	
Michigan, Chicago, Ill.....	29.71‡	754.6‡	.....	.....	71	21.7	90	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	Hazy.....	
Monocacy. N. 33° —′, E. 122° —′??	29.88‡	758.9‡	.....	.....	81	27.2	83	SE	.....	.....	3	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Monongahela, Hakodadi, Japan.....	29.99‡	761.7‡	.....	.....	72	22.2	53	SE	.....	....	4	.....	k	.....	.....	0	0	.....	.....	D. clouds....	
New Hampshire. Port Royal, S. C.....	29.96‡	761.0‡	.....	.....	83	28.3	79	S	14	6.3	.....	.....	5	.....	SSE	0.08	2.0	.....	.....	Fair.....	
Onward, Callao, Peru. ....†	29.95‡	760.7‡	.....	.....	62	16.7	88	NW	.....	....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, N. 32° 42′, E. 122° 37′.....	29.88‡	758 9‡	.....	.....	80	26.7	91	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
Passaic, Washington, D. C.....	29.84‡	757.9‡	.....	.....	75	23.9	90	SW	.....	.....	3	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Pensacola, Arica, Peru.....	30.06‡	763.5‡	.....	.....	62	16.7	77	Calm	....	.....	0	.....	10	.....	.....	.....	.....	Long	S	Overcast.....	
Portsmouth. Portland, Maine.....	29.57‡	751.1‡	.....	.....	77	25.0	73	SW	.....	.....	4	.....	5	.....	wsw	.....	.....	Smooth	.....	Squally.....	
Powhatan. N. 37° 18′, W 74° 21′.....	29.94‡	760.5‡	.....	.....	73	22.8	95	S	.....	.....	4	.....	2	.....	SSE	0.10	2.5	Smooth	.....	Fair.....	
Quinnebaug, Venice, Italy.....	29.98‡	61.6‡	.....	.....	82	27.8	83	E	.....	....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N 33° 26′, E 135° 53′ §.	29.89‡	59.2‡	.....	.....	83	28.3	97	Calm	.....	.....	0	.....	10?	.....	Calm	.....	.....	Smooth	.....	Clear?.....	
Richmond, Yokohama, Japan.....	29.97‡	761.2‡	.....	.....	76	24.4	95	NW	....	....	1	.....	10	.....	NW	0.05	1.3	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.68‡	751.8‡	.....	.....	78	25.6	95	S	....	....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md.....	29.82‡	757.4‡	.....	.....	75	23.9	86	WSW	....	.....	1	.....	8	.....	W	0.01	0.3	.....	.....	Cloudy.....	
Saratoga, Newport, R. I.....	29.7-‡	754.9‡	.....	.....	69	20.6	100	SW	.....	....	4	.....	8	.....	wsw	0	0	.....	.....	Misty.....	
St. Louis, League Island, Pa	29.82‡	757.4‡	.....	.....	75	23.9	90	SW	12	5.4	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy.....	
Trenton, Gravesend, Eng.	29.81‡	757.2‡	.....	.....	60	15.6	100	SE	.....	....	1–2	.....	10	.....	S;W	0.02	0.5	.....	.....	Drizzling....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.81‡	757.2‡	.....	.....	61	16.1	88	SW	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Vandalia. Navy Yard, Pensacola, Fla.	29.84‡	757.9‡	.....	.....	80	26.7	91	SSE	....	.....	6	.....	10	.....	SW	.....	.....	Mod'ate	E	Cloudy.....	
Wabash Boston, Mass.....	29.71‡	754.6‡	.....	.....	75	23.9	77	SW	6	2.7	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy..	
Wachusett. Boston Harbor, Mass.....	29.7-‡	754.9‡	.....	.....	73	22.8	85	SW	....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Wyoming. N. 45° 40′. E. 32° 03′.....	30.18‡	766.6‡	.....	.....	71	21.7	62	NNW	.....	.....	2–3	.....	2	.....	NNW	.....	.....	Smooth	NNW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7.35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force	Amount.		Direction.						
											Up'r	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, Panama Bay, Panama.†		29.94‡	760.5‡	78	25.6	96	N			1		10		N	0.24 in. or 6.1 mm	Small	NNE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Chinnock
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.28‡	769.1‡				S			1		10		SE				Raining	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; J. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China.....†		29.92‡	760.0‡	87	30.6	84	SW			2	9c				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson.																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 46° 23', W. 143° 45'		29.98‡	761.5‡	56	13.3	63	S			5		8		S		3	SSE	D. clouds	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeifer, N. 45° 51', W. 42° 52'		29.73‡	755.1‡	56.6	13.6	87	W			7		8		WNW	¼ h'r	Heavy	WNW	Cloudy	S. Risius, 3rd Officer.
S. S. Nuruberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 48', E. 5° 40'		29.90‡	759.4‡				WSW			4		5		SW		4	W	Cloudy†	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 05', W. 24° 01'		29.70‡	754.4‡	63	11.7	86	SW			3		5		SW	0	Mod'ate	W	Fine	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, Off Chatham, Mass.		29.71‡	754.6‡	64	17.8	89	SW	15	6.7			Fog			0	Rough	SSW	Foggy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 24° 05', W. 33° 44'		30.1‡	64.5‡	79.8	26.6	78	NE			5		4				4	N	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

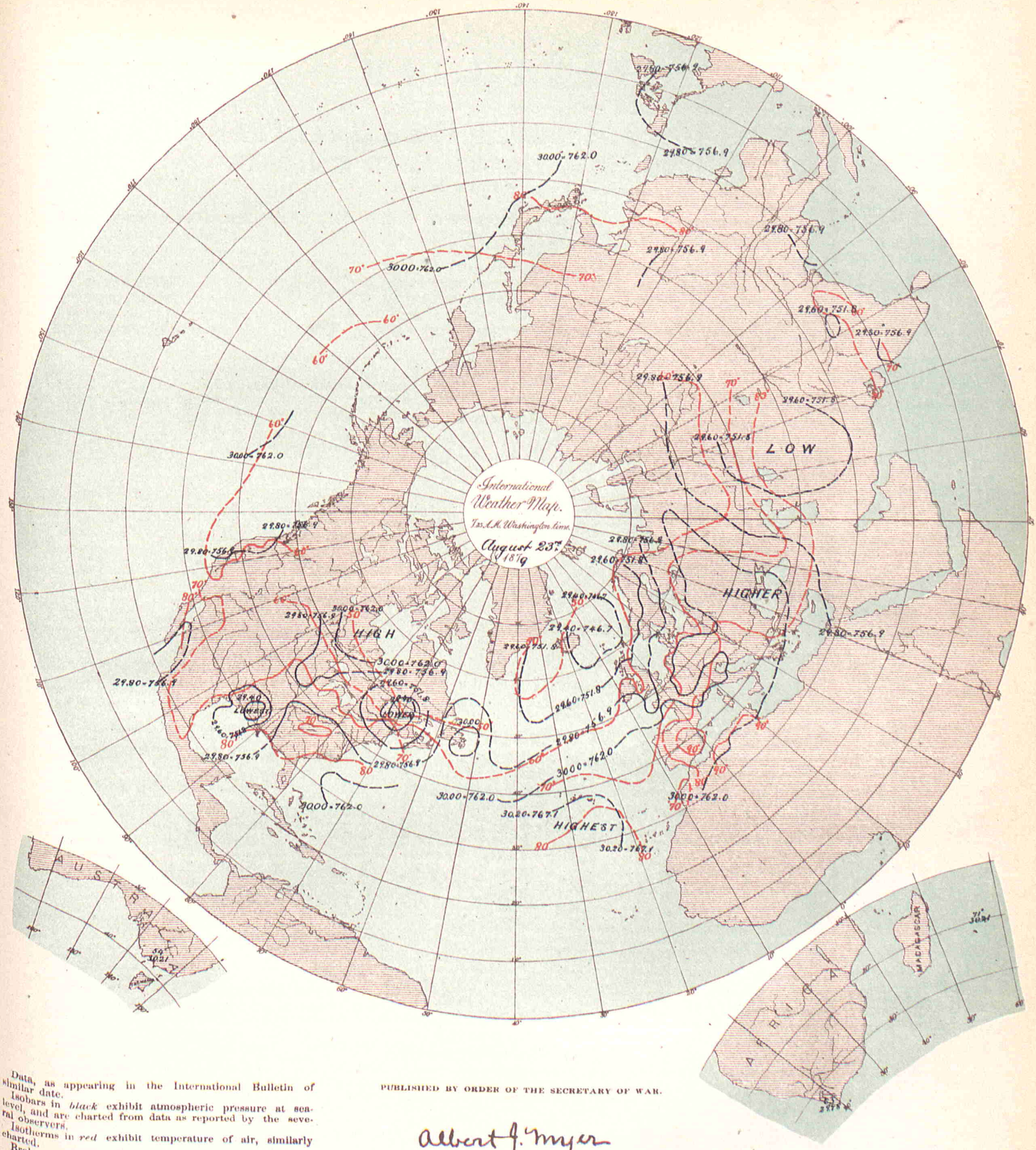
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.13	765.3	66.9	20.5	87	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.11	764.9	83.6	28.6	59	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.10	764.4	81.7	27.6	74	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourilière.
La Calle	.....	.....	30.11	764.7	81.0	27.2	84	NNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.08	764.0	90.9	32.7	20	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.11	764.7	88.0	31.1	41	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	77.6	25.3	33	NNW	.....	.....	2	.....	2	.....	.....	0.118	3.0	Fair	Brugniaux.
Laghouat	.....	.....	30.03	762.8	98.2	36.8	23	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	762.0	104.0	40.0	28	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	746.9	29.93	760.2	78.1	25.6	78	SE	.....	.....	2	.....	6	.....	.....	0.001	0.1	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.98	761.4	68.4	20.2	93	NW	4.3	1.9	.....	.....	10	.....	.....	0.094	2.4	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.06	738.2	29.90	759.4	78.8	26.0	54	S	.....	.....	3	c	9;s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.79	731.2	29.99	761.8	70.9	21.6	74	SW	.....	.....	2	.....	8	.....	.....	1.417	36.0	.....	Andreas Rospini.
Hermannstadt	28.63	727.1	29.99	761.7	77.7	25.4	50	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.66	728.0	29.95	760.7	72.1	22.3	80	WNW	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.97	735.9	29.91	759.6	77.9	25.5	60	S	.....	.....	1	.....	0	.....	.....	0.012	0.3	.....	Dr. T. Stanecki.
Pola	29.84	758.0	29.95	760.7	86.4	30.2	65	SE	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.57	751.0	30.02	762.4	82.4	28.0	46	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.65	753.1	29.91	759.8	82.4	28.0	52	S	.....	.....	2	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.85	758.3	29.96	760.9	82.9	28.3	52	W	.....	.....	1	.....	6	.....	.....	0	0	.....	P. Busin.
Vienna	29.29	743.9	30.01	762.2	72.1	22.3	65	W	.....	.....	2	.....	8	.....	.....	0.008	0.2	.....	I. R. Central Met. Ob'ay.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cne.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.84	757.9	64.5	18.1	.....	WNW	8	3.6	.....	.....	7	.....	.....	0.140	3.56	D. clouds	W. Boswell.
Ardrossan																			Wm.McNeil &G.Carrick
Armagh, Observatory	29.70	754.4	29.93	760.2	62.4	16.9	.....	S	6	2.7	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.97	761.2	66.0	18.9	.....	NW	7	3.1	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	29.95	760.7	64.2	17.9	.....	W	6	2.7	.....	.....	4	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire																0.01	0.3	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.96	761.0	78	25.6	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.91	759.7	30.00	762.0	69.0	20.6	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.99	761.7	69.0	20.6	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.89	759.2	30.02	762.5	66.3	19.1	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper. R. E.
Donaghadee	29.89	759.2	29.93	760.2	58	14.4	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.99	761.7	30.02	762.5	63	17.2	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	⅜ clouded	J. Costello.
Falmouth, Observatory	29.81	757.2	30.04	763.0	59.7	15.4	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	The Staff.
Fort Napier (Natal)																		.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	78	25.6	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.79	756.7	60	15.6	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.06	763.5	80.1	26.7	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.70	754.4	29.90	759.4	61.8	16.6	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.98	761.5	29.99	761.7	62	16.7	.....	NNE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.84	757.9	30.01	762.2	68.0	20.0	.....	WSW	.....	.....	1	.....	6	.....	.....	.....	.....	Light clouds	The Staff, for G.B.Airy.
Guernsey	29.82	757.4	30.04	763.0	64	17.8	.....	WSW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.00	762.0	30.12	765.0	65	18.3	.....	S	.....	.....	2	.....	6k	.....	.....	0.05	1.3	Misty	M. P. Moyle.
Holyhead	29.94	760.5	29.96	761.0	63	17.2	.....	SSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.82	757.4	30.11	764.8	63.4	17.4	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.98	761.5	30.02	762.5	66.1	18.9	.....	W	.....	.....	5	.....	6	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester, Museum.	29.73	755.1	29.98	761.5	64.5	18.1	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	67.0	30.6	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.73	755.1	29.82	757.4	64	17.8	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.98	761.5	85.0	29.4	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.79	756.7	29.98	761.5	68.8	20.4	.....	SW	.....	.....	3	.....	5c;k	.....	SW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.46	748.3	29.97	761.2	71.0	21.7	.....	S	.....	.....	3	.....	3	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.01	762.2	67	19.4	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.96	761.0	30.03	762.7	61.2	16.2	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town																		.....	W. H. Tooker.
*Roche's Point	29.85	758.2	29.97	761.2	63	17.2	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
Saint Ann's Head	.....	.....																.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.80	756.9	57.1	13.9	.....	W	18	8.0	.....	.....	1	.....	.....	.....	.....	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.92	760.0	29.98	761.5	84.6	29.6	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't, W. H.Lyne.
Sheffield	29.70	754.4	29.98	761.5	70.8	21.6	.....	SW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.93	760.2	65.3	18.5	73	W	.....	.....	3	.....	1	.....	.....	0.266	6.50	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.98	761.5	63.9	17.7	.....	SW	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	.....	.....	68.7	20.4	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.01	762.2	30.02	762.5	64	17.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.82	757.4	29.85	758.2	62.2	16.8	.....	S	22	9.8	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.85	758.2	29.89	759.2	60.9	16.1	.....	W	11.0	4.9	.....	2	4	.....	.....	0.740	18.80	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.91	759.7	68.5	20.3	.....	W	.....	.....	4	.....	2k	.....	.....	0.09	2.3	Fine	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.4	70.8	21.6	59	SE	20.0	8.9	.....	0	3	.....	ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	52.0	11.1	86	W	1	0.4	.....	.....	4	.....	.....	0.12	3.0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.73	755.1	.....	.....	.....	SW	.....	.....	4	5	3	SSW	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	25.60	650.2	.....	.....	73.5	23.1	.....	NNW	.....	.....	.....	1c	1c	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 9 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00′ E. 28° 35′	.....	.....	30.031	762.7‡	76	24.4	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
German Brig "W. von Freeden" N. 48° 40′, W. 18° 40′	.....	.....	29.67	758.7	61	16.1	.....	SW	.....	.....	6	.....	10	.....	.....	4	W	Raining	Capt. H. v. Freeden.
Theophane																			Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
Barque Fedalma																			Capt. H. L. Fox.
British Peer																			Capt. Raymond.
Astarte																			Capt. Parson.
Agnes Wilson																			Capt. H. W. Dyke.
Gordon Castle																			
Barque Commewyne																			Capt. A. Buchan.
Atmosphere																			
Algeria																			Capt. Wm. Watson.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	67.6	19.8	98	NE			1		10s;d			0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is redu ed to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distin tion between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.74	755.4	29.79	756.6	62.2	16.8	77	NW			2		8						Raining
Fanöe	29.83	757.7	29.85	758.2	63.1	17.3	74	WNW			4		3						
Godthaab (Greenland)	29.67	753.6	29.71	754.7				S			2		10						Foggy
Stykkisholm (Iceland)	29.55	750.6	29.60	751.7	46.8	8.2	65	NE			7		0						
Thorshavn (Faröe)	29.56	750.7	29.59	751.6	55.8	13.2	86	SW			2		10						
Vestervig	29.73	755.1	29.84	757.9	61.2	16.2	83	SW			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.68	751.2	30.13	765.2	66.9	19.4	77	NW			1		10k		NW	0.732	18.6	Covered	Colignon, Director.
Amiens, Normal School	29.93	760.2	30.04	763.0	69.8	21	80	SW			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School																			Klein, Commandant.
Avignon, Normal School	30.00	761.9	30.08	763.9	66.9	30.5	34	N			2		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.52	749.9	30.07	763.6	70.5	21.4	71	N			1		8kn		NW	0.59	15.	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.80	756.8	30.06	763.4	67.8	19.9	68	NW			1		8		NW	0.453	11.5	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.23	742.4	30.09	764.3	78.4	28	59	S			3		2	SE		0.35	9.	Slightlycl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.4	30.16	766.1	77.7	25.4	60	N			1		2kn	NW	NW	0	0	Slightlycl'dy	Marlot, Director.
Bourges, Normal School	29.53	750.0	30.07	763.7	68.9	20.5	86	WSW			5		n		WNW	0.83	21.		M. Gence, Director.
Brest, Naval Observatory	29.84	757.9	30.05	763.2	68.7	20.4	83	SW			1		6		SW	0.098	2.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.68	753.9	30.08	764.0	81.3	27.4	46	W			1		8	W	WNW	0	0	Very cloudy	September, Dir.
Caen, Normal School	29.97	761.2	30.04	763.0	68.4	20.2	69	W			1		5		W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.47	748.5	30.02	762.5	67.1	19.5	72	W			1		9		W	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	755.6	30.06	763.4	70.9	21.6	63	NW			1		0					Clear	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.80	731.6	30.10	764.6	76.8	24.9	42	W			1		5		W	0	0		Allnard, Director.
Commercy, Normal School	29.22	742.3	30.06	763.5	68.0	20	91	W			5		5kn	W	W	0.16	4.	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	29.02	737.1	30.16	766.1	83.5	28.6	35	NW			5		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.45	747.9	30.18	766.6	79.5	26.4	59	NW			3		n		W	0	0		Ablard, Director.
La Roche-sur-Yon, N. School	30.03	762.7	30.24	768.1	66.2	19.0	87	W			3		5		W	0.291	7.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.32	757.4	30.12	765.1	66.6	19.2	77	NW			1		5		NW	0.94	24.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.22	742.3	30.11	764.9	73.0	22.8	71	SW			1		2k	SW	SW	0.12	3.	Partly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.04	762.9	30.14	765.5	65.8	18.8	88	SW			3				SW	0.049	24.10		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.50	749.4	30.10	764.4	81.7	27.6	50	NW			1	0	k		W	0	0		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.80	756.8	30.06	763.4	86.2	30.1	38	W			3		2		NW	0	0		E. Stephan, Director
Mirecourt, Normal School	29.00	736.5	30.00	762.1	69.8	21	76	SW			1		8cn	W	W			Very cloudy	Barbier, Director
Mont-Louis	26.12	638.1	30.44	773.1	63.8	18.8	68	SW	18.6	8.3					E	0	0		M. Cave
Nice	29.98	761.4	30 01	762.3	79.7	26.5	71	E			3		2	E	E	0	0	Slightly cov.	M. Boissieré, Director.
Nismes, Normal School	29.87	758.7	30.06	763.5	88.9	31.6	64	S			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.80	756.9	65.1	18.4	75	NW			2		10		WNW	0.240	6.1	Sprinkling	Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.81	579.4			57.6	14.2		SW			2		1		SW	0	0	Clear	Gen't de Nansouty.
Perpignan	30.06	763.4	30.16	766.0	83.5	28.6	42	N	13.0	5.8			4		W	0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.34	643.6			51.8	11.0	97	W			7		8			0.067	1.7		Allnard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	72.1	22.3	76	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.97	761.3	30.06	763.5	67.5	19.7	75	W			1		5	W	W	0.075	1.9	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.07	763.6	30.10	764.4	64.4	18.0	80	NW			2		8	NW	WSW	0.321	8.14	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.91	759.6	30.08	763.9	67.1	19.5	73	WSW			1-2		10	W	WNW	0.024	0.6		E. Renou, Director.
Tarbes, Normal School	29.07	738.3	30.11	764.7	77.0	25	72	W			2		10			0	0	Covered	T. Huguet, Director
Toulouse, Observatory	29.55	750.6	30.28	769.1	74.5	23.6	62	NW			3		8			0	0		M. Julier Mercadier.
Tours	29.93	760.1	30.12	765.1	68.7	20.4	69	W			2		10		W	0.528	13.4	Covered	Cousin-Marquet.
Versailles, Observatory	29.59	751.6	30.08	764.0	65.5	18.6	73	WNW			2					0.050	1.26		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.40	746.8	30.08	764.1	78.8	26	45	W			5		2		SE	0	0	Slightlycl'dy	Nicot, Director
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	78.8	26										0.08	2.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.80	757.0	29.83	757.6	77.7	25.4	95	ESE	13.4	6.0			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grésque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Grèsque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 180.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	739.9	29.97	761.3	70.5	21.4	77	SW			4		8	SW		0.504	12.8		Prof. Dr. Hoh.
Berlin	29.71	754.6	29.87	758.8	71.2	21.8	74	S			1		7			0.028	0.7	Raining	Prof. Dr. Arndt.
Breslau	29.40	746.8	29.93	760.2	73.6	23.1	65	SW			2		10			0	0		Royal University Ob'y.
Carlsruhe	29.56	750.7	29.97	761.2	72.5	22.5	72	SW			4		8	SW		0.118	3.0	Raining	Albert Senz.
Cassel	29.33	745.0	29.94	760.4	68.5	20.3	80	NW			4		8	WSW		0.060	1.52		Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	66.7	19.3	82	W			4		9			0.24	6.		Director Lose.
Emden			29.90	759.4	66.4	19.1	69	NNW			2		5			0.157	4.0		Prof. Dr. Prestel.
Frankfort on the Main	29.56	750.8	29.92	759.9	73.0	22.8		WNW			2		8			0.185	4.7		Physical Society.
Freienwalde on the Oder																			Dr. Assmann.
Friedrichshafen	28.65	727.8	30.04	763.0	71.1	21.7	74	SW			5		3	W		0	0		M. Wilhelm.
Hamburg	29.78	756.5	29.85	758.2	66.9	19.4	83	WSW			3		10k			0.076	1.9		Captain F. Hegemann.
Kiel	29.64	757.8	29.85	758.2	65.1	18.4	78	NNE			4		5			0.160	4.06		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.3	29.86	758.3	70.3	21.3	67	SW			4		8			0.217	5.5		Prof. E. Luther.
Köslin			29.80	757.0	67.6	19.8		SW			2		4			0.201	5.1		H. Müller.
Leipsic Observatory	29.50	749.3	29.91	759.6	71.2	21.8	71	SW			2		9	WSW		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.84	757.8	29.88	759.0	68.5	20.3	77	S			2		10n						Skalweit.
Munich (München)	28.24	717.2	30.10	764.6	70.7	21.5	64	W			8		6	SW		0.055	1.4		Dr. C. Lang.
Neufahrwasser	29.83	757.6	29.84	758.0	69.4	20.8	72	SSW			3		10			0.413	10.5		A. Lothes.
Posen	29.60	751.8	29.87	758.8	73.4	23.0	63	W			6		10			0.028	0.7		Dr. Magener.
Strassburg (in Alsace)	29.50	749.4	30.03	762.8	74.7	23.7	57	W			3		9	WSW		0.046	1.16	Raining	Imp. University Observatory.
Stuttgart	29.06	738.1	29.97	761.2	69.8	21.0	74	W			3		6	W		0.201	5.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.52	724.4	29.98	761.4	69.3	20.7	65	W	11	5			7ck		NE	0.335	8.5		T. Hopfner.
Wustrow	29.80	756.9	29.83	757.6	61.9	16.6	92	SW			2		10s			0	0		E. Schulz, Director
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.3	30.03	762.8	85.6	29.8		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.59	751.5	29.64	752.8	83.3	28.5	73	WSW	14.0	6.3			4	WSW		0	0	D. clouds	
Deesa	29.17	740.8	29.64	752.7	84.1	28.9	73	WSW	7.0	3.1			9	E		0	0	D. clouds	
Bombay	29.69	754.1	29.73	755.1	75.6	24.2	98	WSW	10.0	4.5			10		WSW	0.28	7.1	D. cloudg	
Poona	27.87	708.0	29.75	755.5	71.5	21.9	85	W	17.0	7.6			10	Calm	W	0.13	3.3	Drizzling	
Lahore	26.84	732.4	29.56	760.6	89.1	31.7	65	NE	2.2	1.0			0			0	0	Blue sky	
Belgaum	27.23	691.6	29.79	756.7	69.4	20.8	91	WNW	14.0	6.3			10	W	W	0.17	4.3	Overcast	
Roorkee	28.71	729.2	29.60	751.7	83.8	28.8	81	Calm	0.4	0.2			2			0.21	5.3	D. clouds	
Agra	29.04	737.5	29.59	751.7	81.7	27.6	91	E	3.9	1.7			8		E	0	0		
Nagpur	28.57	725.7	29.62	752.2	78.7	24.8	94	Calm	5.0	2.2			10			1.53	38.9	Overcast	
Lucknow	29.24	742.7	29.61	752.1	85.2	29.6	83	E	1.6	0.7			7		NNW	0.06	1.5	D. clouds	
Allahabad	29.28	743.7	29.59	751.6	83.1	28.4	57	ENE	4.4	2.0			5			0	0	D. clouds	
Patna	29.44	747.8	29.62	752.4	84.8	29.3	80	E	1.6	0.7			6	E	E	0.04	1.0	D. clouds	
Hazaribagh	27.60	701.0	29.68	753.8	76.0	24.4	90	E	8.7	3.9			10		E	0.12	3.0	Showery	
Cuttack	29.50	749.4	29.59	751.5	83.7	28.7	83	Calm	1.0	0.4			8			0	0	D. clouds	
Calcutta (Alipore)	29.62	752.3	29.64	752.8	80.6	27.0	91	S	5.0	2.2			10	S		0	0	Overcast	
Goalpara	29.32	744.6	29.70	754.5	79.4	26.3	85	ESE	2.5	1.1			7			1.10	27.9	D. clouds	
Chittagong	29.68	753.5	29.75	755.7	82.4	28.0	81	S	6.9	3.1			8			0	0		
Sibsagar	29.39	746.5	29.72	755.0	82.7	28.2	85	WSW	2.6	1.2			10	W	W	0.85	21.6	D. clouds	
Jubbulpore	28.23	717.0	29.58	751.4	78.6	25.9	93	NNW	3.3	1.5			10		W	1.35	34.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected (or instrum'tal error and temperature. Inches.	Barometer. Corrected (or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	749.9	29.92	759.9	84.4	29.1	40	SE	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.45	748.0	29.91	760.5	80.8	27.1	59	S	.....	.....	2	.....	2	S	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.83	757.7	29.94	760.4	83.7	28.6	63	SE	0.7	0.3	.....	.....	3	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.06	738.2	29.93	760.3	83.3	28.5	53	SW	1.8	0.8	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	758.0	30.02	762.6	78.3	25.7	70	SW	4.9	2.2	.....	.....	2	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.11	713.9	29.94	760.3	82.6	28.2	48	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.5	29.95	760.7	77.4	25.2	73	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.76	755.8	30.00	762.0	86.0	30.0	46	WSW	.....	.....	2	.....	4	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	760.1	30.01	762.2	79.8	26.3	70	W	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.85	758.1	30.02	762.4	86.5	30.3	55	W	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.72	755.0	29.97	761.3	89.6	32.0	31	SW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.13	739.9	29.97	761.2	89.6	32.0	57	NW	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.87	758.7	30.06	763.4	82.2	27.9	70	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.6	30.03	762.8	82.8	28.2	62	ENE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.94	760.5	30.01	762.3	86.4	30.2	59	SE	9.8	4.4	.....	.....	6	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.2	30.05	763.3	84.0	28.9	69	WSW	6.8	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	81.0	27.2	84	NE	1.1	0.5	.....	.....	3cs;s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.87	758.7	79.9	26.6	88	SSW	0.8	0.3	.....	.....	1ck;s	.....	.....	0	0	Light fog	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.83	757.7	29.89	759.2	75.2	24.0	95	N	3.0	1.3	.....	.....	10ks;s	.....	.....	0.045	1.14	Cloudy	The Staff.
Wakayama	29.84	757.9	29.89	759.2	81.2	27.3	79	SSW	2.8	1.2	.....	.....	2s	.....	.....	0.171	4.34	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.92	632.9	29.87	758.7	60.8	16.0	82	NW	.....	.....	2	.....	9	.....	Calm	0.84	21.2	Very cloudy	Prof. L. Perez.
Leon	24.30	617.3	29.89	759.1	64.8	18.2	88	S	.....	.....	2	8c	2s	E	.....	Inap.	Inap.	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	22.95	583.0	29.85	758.3	58.3	14.6	84	Calm	0	0	.....	0	10ks	.....	E	0.92	23.3	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.2	16.8	89	Calm	.....	.....	0	.....	10n	.....	.....	Inap.	Inap.	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.72	754.8	29.78	755.1	77.0	25.0	83	S	.....	.....	2	.....	9	.....	SE	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.06	611.1	29.96	761.0	60.1	15.6	58	E	.....	.....	2	6	4	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.49	571.3	30.02	762.5	57.0	13.9	93	Calm	.....	.....	0	8c	0	Calm	.....	0	0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.33	592.5	29.98	761.6	58.1	14.5	83	SE	0.2	0.1	.....	.....	10k	s	S	1.08	27.5	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.49	749.0	29.77	756.1	78.1	25.6	87	SE	.....	.....	1	2c	2k	Calm	Calm	0	0	Fair	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.5 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,169 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.4	30.02	762.4	66.9	19.4	.....	NW	.....	.....	3	.....	.....	.....	.....	0.063	1.6	.....	
Groningen	29.85	758.2	29.91	759.6	64.9	18.3	.....	N	.....	.....	1	.....	.....	.....	.....	0.618	15.7	.....	
Helder	29.96	761.0	29.96	761.0	61.3	16.3	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.98	761.4	29.98	761.4	68.2	20.1	74	NNW	.....	.....	3	.....	.....	.....	.....	0.079	2.0	.....	
Utrecht	29.93	760.1	29.97	761.3	67.3	19.3	73	NNW	.....	.....	2	.....	5	.....	.....	0.091	2.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.67	753.6	29.72	755.0	60.1	15.6	77	SW	14.8	6.6	.....	.. ....	8	.....	.....	0.77	19.6	.....	
Brönö	29 40	746.8	29.44	747.8	56.3	13.5	69	SW	27	12	.....	.....	10	.....	.....	0.118	3.0	Raining	
Christiania	29.55	750.5	29.69	754.1	66.4	19.1	58	SSW	11	5	.....	.....	3	.....	.....	0.035	0.9	.....	
Tromsö	29.20	741.6	29.24	742.7	60.4	15.8	71	SW	7	3	.....	.....	6	.....	.....	0.012	0.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.10	764.4	30.29	769.3	76.6	24.8	83	W	10.5	4.7	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29 31	744.4	30.26	768.6	93.2	34.0	22	NNE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.14	765.5	30.23	767.7	77.9	25.5	40	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.88	759.0	30.23	767.7	82.8	28.2	51	NNE	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	768.5	30.34	770.7	78.8	26.0	61	SW	4.3	1.9	.....	.....	8	.....	.....	0.087	2.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	1	NNW	D clouds	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.	2	.....	Overcast	.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	.....	Blue sky	.....	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.51	749.5	29.91	759.8	72.3	22.4	69	SE	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.51	749.6	29.91	759.8	71.8	22.1	49	W	2	1	.....	.....	4	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.56	750.7	29.79	756.6	70.0	21.1	56	SW	11	5	.....	.....	4ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.69	754.2	29.71	754.6	67.1	19.5	70	WNW	11	5	.....	.....	3k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.41	746.9	30.01	762.2	75.4	24.1	40	S	22	10	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.08	764.1	30.15	765.9	80.1	26.7	44	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.16	766.0	30.16	766.5	73.6	23.1	75	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.40	746.7	29.92	759.9	74.5	23.6	48	S	13	6	.....	.....	5kc	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.94	760.4	30.13	765.4	77.4	25.2	44	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.36	745.7	29.38	746.2	64.2	17.9	73	WNW	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.67	728 2	30.03	762.6	76.6	24.8	46	SE	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.23	767.7	30.14	765.6	68.9	20.5	36	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.54	750.3	30.00	761.9	66.9	19.4	49	WNW	2	1	.....	.....	4ck	.....	.....	.....	.....	.....	Cand. Faijanow.
Kasan	29.59	751.5	29.85	758 2	62.6	17.0	60	SW	4	2	.....	.....	9ck	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.72	729.4	29.67	753.5	51.8	11.0	45	NNW	22	10	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.66	753.4	29.89	759.2	71.6	22.0	46	NNW	16	7	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	29.22	716.8	29.73	755.2	55.3	29 6	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	28.97	735.9	29.45	747.9	66 6	19.2	64	SE	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.55	750.6	29.63	757.6	64.2	17.9	69	E	7	3	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.67	753.7	29.82	757.3	78.1	25 6	75	Calm	0	0	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.78	756.3	29.87	758.8	68.0	20.0	93	SE	7 8	3.5	.....	.....	6ks	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.01	762.2	30.11	764 8	81.5	27.5	72	SSE	1.6	0.72	.....	.. ....	3	.....	.....	0	0	Clouds	Antonio Rave, Director
Bilbao, Met. Obs'y	30.23	767 8	30.28	769.2	74.8	23.8	77	W	1.8	0.80	.....	.....	10	.....	.....	0.063	1.6	Rainy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.30	693.5	.....	.....	80.2	26.8	41	SW	4.6	2.04	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Observatory	27 98	710.8	30.05	763.3	95.9	35.5	24	NW	4.5	2.10	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.95	760.6	30.09	764.2	96.4	35.8	46	ENE	4.0	1.78	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.35	745.5	30.22	767.6	73.8	23.2	77	SW	11.2	5.0	.....	0	8	.....	.....	0.071	1.8	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.86	758.4	29.92	760.0	82.2	27.9	81	SE	4.5	2.0	.....	9pc	1k	.....	.....	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.67	753.6	29.73	755.0	83 3	28.5	80	SSW	13.4	6.0	.....	2cs	3s	W	E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	762.9	30.13	765.3	84.6	29.2	56	WNW	10.3	4.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.95	760.6	30.04	762.9	79.9	26.6	78	SE	0	0	.....	4cks	3k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.37	746.1	29.41	747.1	66.6	19.2	.....	SW	.....	.....	4	.....	2	.....	.....	0.276	7.0	.....	
Umea	29.47	748.6	29.52	749.9	70.9	21.6	41	NW	.....	.....	4	.....	5	.....	.....	0.008	0.2	.....	
Hernosand	29.54	750.3	29.59	751.6	71.2	21.8	54	S	.....	.....	4	.....	3	.....	.....	0	0	.....	
Stockholm	29.54	750.2	29.71	754.7	66.2	19.0	61	WSW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Wisby	29.72	755.0	29.78	756.5	59.0	15.0	78	NW	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	
Sub-Series.																			
Upsala	29.58	751.3	29.67	753.5	67.8	19.6	53	SW	13.7	6.1	.....	.....	6	.....	WSW	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	728.9	30.06	763.5	70.5	24.7	50	WNW	.....	.....	3	.....	6	.....	.....	0.012	0.3	Cloudy	The Observatory.
Zurich	28.47	723.1	30.05	763.2	72.5	22.5	69	W	.....	.....	2	.....	4	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +1.2 mm.; Thermometer, +3.7 Cent.; Relative Humidity, —7 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.05	763.2	77.0	25.0	61	ENE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.12	765.1	89.2	31.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.80	756.8	83.8	28.8	62	NNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.60	751.8	29.66	753.4	61	16.1	98	W	1	0.4	.....	8k	2ks	SW	SW	0.29	7.4	Fair	G. A. Ball.
Charlottetown, P. E. Island	29.62	752.3	29.66	753.4	66	18.3	91	SW	8	3.6	.....	5ck	2s	W	.....	0.105	2.67	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.46	748.3	29.65	753.1	61.8	16.6	84	NW	.....	.....	3	.....	9s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.46	748.3	29.62	752.3	60	15.6	100	W	.....	.....	1	.....	9ks	.....	.....	1.32	33.5	Clearing	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.64	752.8	29.66	753.4	44	6.7	98	Calm	0	0	.....	.....	Fog	.....	Calm	0.31	7.9	Foggy	J. McWilliams.
Fredericton, N. B	29.64	752.8	29.70	754.4	66.0	18.9	79	NW	2	0.9	.....	1ck	0	W	.....	0.040	1.02	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.05	737.9	29.85	758.2	58	14.4	82	E	10	4.5	.....	5k	5n	Calm	Calm	0	0	Cloudy	James Stewart.
Granton, Ontario	28.75	730.2	29.84	757.9	55	12.8	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	James Grant.
*Halifax, N. S	29.61	752.1	29.74	755.4	60	15.6	67	Calm	0	0	.....	.....	10n	.....	.....	0.108	0.20	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.48	748.8	29.85	758.2	60.7	15.9	79	W	.....	.....	1	1c	0	NW	.....	0	0	Fine	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.40	746.7	29.72	754.9	62	16.7	86	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.46	748.3	29.66	753.4	62	16.7	83	S	10	4.5	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.13	739.9	29.81	757.2	58	14.4	79	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.77	756.1	61.0	17.8	71	NW	.....	.....	4	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.16	740.7	29.84	757.9	55	12.8	93	N	12	5.4	.....	10c	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.83	757.7	58	14.4	93	N	2	0.9	.....	5ck	0	W	.....	0.01	0.3	Fair	M. Payne.
*Quebec, Quebec	29.33	745.0	29.84	758.2	60	15.6	91	Calm	.....	.....	0	.....	10n	.....	.....	0.17	4.3	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.29	741.0	29.73	755.1	58	14.4	88	NW	6	2.7	.....	.....	8s	.....	NW	0.19	4.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.64	752.8	29.70	754.4	60	15.6	88	E	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.56	750.6	29.72	754.9	55	12.8	93	S	4	1.8	.....	1k	0	.....	.....	0.04	1.0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.13	739.9	29.82	757.4	61	16.1	82	N	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	753.6	29.71	754.6	66	18.9	87	SW	6	2.7	.....	2ck	8ks	.....	SW	0.09	2.3	Fair	T. C. Hill.
*Toronto, Ontario	29.44	747.8	29.81	757.2	61	16.1	73	NW	13	5.8	.....	2cs	0	Calm	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.67	753.6	29.70	754.4	69.5	20.8	82	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock, Ontario	28.68	728.5	29.71	754.6	58.6	14.8	88	NW	7	3.1	.....	4c;cs	0	NW	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.98	761.5	54.0	12.2	100	Calm	.....	.....	.....	Fog	Fog	.....	.....	1.00	25.4	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.54	750.3	29.76	755.9	63	18.9	84	W	2	0.9			10s		W	Inap.	Inap.	Threatening	
Alpena, Michigan	29.23	742.4	29.86	758.4	58	14.4	82	NW	8	3.6		0	0			0	0	Clear.	
Atcha, Aleutian Is., Alaska					50	10.0	100	SW	1	0.4			10s		S	1.08	26.4	Cloudy	
Atlanta, Georgia	28.67	728.2	29.76	755.9	73	22.8	95	SE	15	6.7			10s		SE	0.36	9.1	Cloudy	
Atlantic City, New Jersey	29.80	756.9	29.81	757.2	72	22.2	100	SW	6	2.7			10n		Calm	0.50	12.7	Light rain	
Augusta, Georgia	29.73	755.1	29.92	760.0	75	23.9	90	SE	2	0.9		2cs	5ks	SE	Calm	0.14	3.6	Fair	
Baltimore, Maryland	29.78	756.4	29.83	757.7	73	22.8	85	SW	7	3.1			10n		Calm	0.02	0.5	Light rain	
Barnegat, New Jersey	29.77	756.1	29.80	756.9	74	23.3	95	W	9	4.0			10s		SW	0.03	0.8	Cloudy	
Bismarck, Dakota	27.98	710.7	29.84	757.9	64	17.8	83	E	8	3.6		5ck	0	S		Inap.	Inap.	Fair	
Boerne, Texas	28.32	719.3	29.56	760.8	72	22.2	71	Calm	0	0		0	0			0	0	Clear	
Boise City, Idaho	27.19	690.6	30.15	765.8	50	10.0	65	NW	4	1.8		0	0			0	0	Clear	
Boston, Massachusetts	29.59	751.6	29.73	755.1	79	26.1	58	SW	2	0.9		5ck	0	NW		0	0	Fair	
Brackettville, Texas	28.59	726.2	29.57	751.1	70	21.1	80	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	28.81	731.8	29.75	755.6	65	18.3	78	SE	13	5.8		8cs	0	SW		0	0	Cloudy	
Brownsville, Texas	29.67	753.6	29.71	754.6	81	27.2	83	S	3	1.3		5cs	0	Calm		0	0	Fair	
Buffalo, New York	29.11	739.4	29.78	756.4	62	16.7	77	NW	5	2.2		4cs	0	W		0	0	Fair	
Burkes, Arizona					67	19.4	25	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.41	747.0	29.68	753.9	67	19.4	74	SW	5	2.2		0	0			0	0	Clear	
Cairo, Illinois	29.10	739.1	29.46	748.3	72	22.2	100	NE	12	5.4			10n		NE	2.15	54.6	Heavy rain	
Campo, California	27.24	691.9	29.80	756.9	44	6.7	76	E	2	0.9		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.93	760.2	29.94	760.5	81	27.2	87	SW	14	6.3		5ck	1ks	W	S	0	0	Fair	
Cape Henry, Virginia	29.84	757.9	29.86	758.4	78	25.6	82	SW	3	1.3		5cs	2s	SW	SW	Inap	Inap.	Cloudy	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	81	27.2	83	SW	24	10.7		5c	0	W		0.02	0.5	Fair	
Cape May, New Jersey	29.79	756.7	29.82	757.4	73	22.8	90	SW	22	9.8			10n		Calm	0.10	2.5	Light rain	
Castroville, Texas	28.96	735.6	29.62	752.3	74	23.3	76	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	29.88	758.9	29.93	760.2	77	25.0	95	NW	6	2.7			10n		Calm	0.40	10.2	Light rain	
Charlotte, North Carolina	29.05	737.9	29.82	757.4	74	23.3	90	S	4	1.8			10s		S	0.18	4.6	Cloudy	
Chattanooga, Tennessee	28.97	735.8	29.72	754.9	74	23.3	95	SE	7	3.1			10n		SW	0.57	14.5	Light rain	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	48	8.9	78	W	1	0.4		0	0			0	0	Clear	
Chicago, Illinois	29.15	740.4	29.81	757.2	66	18.9	74	NE	12	5.4		5cs	0	Calm		0	0	Fair	
Cincinnati, Ohio	29.15	740.4	29.76	755.9	73	22.8	87	E	4	1.8			10s		E	1.04	26.4	Threatening	
Cleveland, Ohio	29.12	739.6	29.81	757.2	65	18.3	73	NE	7	3.1		5cs	5s	NW	Calm	0.46	11.7	Cloudy	
Coleman City, Texas	27.99	710.9	29.56	750.8	72	22.2	67	N	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	28.95	735.3	29.74	755.4	70	21.1	90	S	2	0.9			10ks		S	0.01	0.3	Cloudy	
Concho, Texas	27.88	708.1	29.46	748.3	72	22.2	67	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.28	743.7	29.72	754.9	73	22.8	81	N	2	0.9		0	0			0	0	Clear	
Davenport, Iowa	29.20	741.7	29.82	757.4	65	18.3	73	NE	6	2.7		5ks	0	W		0	0	Fair	
Deadwood, Dakota	25.21	640.3			57	13.9	58	SE	4	1.8		0	0			0	0	Clear	
Decatur, Texas	28.66	728.0	29.74	755.4	82	27.8	75	S	5	2.2		0	0			0	0	Clear	
Denison, Texas	28.94	735.1	29.68	753.9	77	25.0	77	NW	4	1.8		0	0			0.01	0.3	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	57	13.9	68	S	3	1.3		0	0			0	0	Clear	
Des Moines, Iowa	28.92	734.6	29.76	755.9	67	19.4	79	SE	3	1.3		5cs	Haze	SW	Calm	0	0	Fair	
Detroit, Michigan	29.18	741.1	29.82	757.4	60	15.6	82	NE	6	2.7		2cs;k	0	Calm		0.05	1.3	Fair	
Dodge City, Kansas	27.28	692.9	29.46	748.3	67	19.4	84	E	4	1.8		2k	1ks	W	Calm	Inap.	Inap.	Fair	
Dubuque, Iowa	29.18	741.1	29.86	758.4	63	17.2	67	NE	3	1.3		10k	0	N		0	0	Cloudy	
Duluth, Minnesota	29.29	744.0	29.94	760.5	63	17.2	83	NE	6	2.7		5k	2s	N	NE	0	0	Cloudy	
Eagle Pass, Texas	28.94	735.1	29.63	752.6	74	23.3	68	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	29.64	752.8	29.70	754.4	67	19.4	74	SW	4	1.8		0	0			0	0	Clear	
Edinburg, Texas																			
El Paso, Texas	26.06	661.9			66	18.9	28	NW	2	0.9		0	0			0	0	Clear	
Erie, Pennsylvania	29.13	739.9	29.81	757.2	66	18.9	79	NE	4	1.8		8c	2s	W	NE	0.16	4.1	Cloudy	
Escanaba, Michigan	29.28	743.7	29.92	760.0	57	13.9	75	N	8	3.6		0	0			0	0	Clear	
Florence, Arizona	28.27	718.0	29.87	758.7	74	23.3	40	W	3	1.3		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.64	702.0	29.38	746.2	58	14.4	87	E	8	3.6		0	Fog		Calm	0	0	Fair	
Fort Custer	26.48	672.6						NW	4	1.8		0	0			0	0	Clear	
Fort Davis, Texas	25.11	637.8	30.07	763.8	61	16.1	88	Calm	0	0		0	0			0.36	9.1	Clear	
Fort Gibson, Indian Ter	29.16	740.7	29.66	753.4	72	22.2	85	N	6	2.7		0	0			0	0	Clear	
Fort Grant, Arizona	25.14	638.5	29.94	760.5	69	20.6	52	E	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.50	723.9	29.71	754.6	71	21.7	80	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.09	688.1			66	18.9	54	E	9	4.0		2k	Sm'e	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.54	699.5	29.37	746.0	68	20.0	70	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.56	725.4	29.62	752.3	68	20.0	84	S	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.92	709.2			63	17.2	83	SE	8	3.6		2ck	0	W		0	0	Fair	
Fort Verde, Arizona					63	17.2	38	NW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.18	715.8	29.63	752.6	85	29.4	44	SW	1	0.4		0	0			0	0	Clear	
Galveston, Texas	29.68	753.9	29.72	754.9	80	26.7	87	SW	1	0.4		0	1ks		SW	0	0	Clear	
Graham, Texas	28.67	728.2	29.66	753.9	69	20.6	90	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.23	742.4	29.86	758.4	58	14.4	82	NE	7	3.1		0	Fog		Calm	0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.79	731.3	29.68	753.9	70	21.1	90	NE	7	3.1		1c	0	W		0	0	Clear	
Indianapolis, Indiana	29.01	736.8	29.74	755.4	71	21.7	85	Calm	0	0			10s		Calm	0	0	Cloudy	
Indianola, Texas	29.72	754.9	29.75	755.6	79	26.7	82	SW	5	2.2		0	0			0	0	Clear	
Jacksboro, Texas	28.77	730.7	29.84	757.9	75	23.9	77	S	10	4.5		0	0			0	0	Clear	
Jacksonville, Florida	29.91	759.7	29.94	760.5	81	27.2	83	SE	16	7.2		2cs	8s	Calm	SE	0.05	1.3	Cloudy	
Keokuk, Iowa	29.13	739.9	29.71	754.6	67	19.4	84	NE	5	2.2			10s		NE	0.03	0.8	Cloudy	
Key West, Florida	29.90	759.4	29.94	760.5	84	28.9	79	S	8	3.6		5k	0	SE		0	0	Fair	
Kittyhawk, North Carolina	29.82	757.4	29.85	758.2	78	25.6	91	W	17	7.6		8cs	0	W		0.33	8.4	Fair	
Knoxville, Tennessee	28.82	732.0	29.77	756.1	71	21.7	98	E	4	1.8			10n;d		SW;E	0.24	6.1	Light rain	
La Crosse, Wisconsin	29.15	740.4	29.85	758.2	63	17.2	78	NE	1	0.4		0	0			0	0	Clear	
La Mesilla, New Mexico	25.93	658.6	30.08	764.0	57	13.9	36	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.32	744.7	29.64	752.8	85	29.4	47	S	2	0.9		0	0			0	0	Clear	
Leavenworth, Kansas	28.91	734.3	29.71	754.6	67	19.4	84	N	4	1.8		1cs	0			0	0	Clear	
Little Rock, Arkansas	29.24	742.7	29.57	751.1	72	22.2	90	NW	14	6.3			10s		NW	4.06	103.1	Cloudy	
Los Angeles, California	29.42	747.3	29.74	755.4	63.5	17.5	89	S	2	0.9			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.19	741.4	29.72	754.9	69	20.6	95	NE	7	3.1			10n;sm		Calm	0.81	20.6	Light rain	
Lynchburg, Virginia	29.16	740.7	29.80	756.9	73	22.8	90	S	4	1.8			10n		NW	0.24	6.1	Light rain	
Madison, Wisconsin	28.90	734.0	29.86	758.4	59	15.0	82	E	4	1.8		5c	0	W		0	0	Fair	
Marquette, Michigan	29.25	742.9	29.93	760.2	59	15.0	70	NW	8	3.6		0	0			0	0	Clear	
Mason, Texas	28.15	715.0	29.81	757.2	74	23.3	55	NW	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	29.14	740.1	29.46	748.3	72	22.2	95	S	13	5.8			10n		S	1.67	42.4	Light rain	
Milwaukee, Wisconsin	29.15	740.4	29.85	758.2	65	18.3	73	NE	9	4.0		8c	0	Calm		0	0	Fair	
Mobile, Alabama	29.75	755.6	29.79	756.7	81	27.2	91	SW	7	3.1		0	2ks		SW	0.24	6.1	Fair	
Montgomery, Alabama	29.58	751.3	29.80	756.9	78	25.6	95	S	7	3.1		2k	5ks	S	S	0.46	11.7	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal errpr and temperature. Inches.	Barometer. Corrected for instrum'tal errpr and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.83	757.7	29.76	755.9	72	22.2	85	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	46	7.8	100	NW	38	17.0	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.12	739.6	29.61	752.1	75	23.9	90	E	7	3.1	.....	.....	10n	.....	SE	1.54	39.1	Light rain...	
New Haven, Connecticut	29.66	753.1	29.76	755.9	73	22.8	85	Calm	0	0	.....	10cs	Haze	Calm	Calm	0	0	Dense haze.	
New London, Connecticut	29.71	754.6	29.76	755.9	72	22.2	90	Calm	0	0	.....	9ck	Ik&h'z	W	Calm;W	0	0	Cloudy.	
New Orleans, Louisiana	29.71	754.6	29.77	756.1	81	27.2	87	SW	8	3.6	.....	6cs	2ks	Calm	SW	0.05	1.3	Fair	
Newport, Rhode Island	29.72	754.9	29.76	755.9	69	20.6	90	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New York, New York	29.60	751.8	29.77	756.1	71	21.7	90	SW	5	2.2	.....	.....	10ks	.....	SW	0.02	0.5	Cloudy.....	
Norfolk, Virginia	29.81	757.2	29.87	758.7	79	26.1	87	S	11	4.9	.....	.....	10s	.....	SW	0.06	1.5	Clouay.....	
North Platte, Nebraska	26.96	684.8	29.43	747.5	59	15.0	88	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Foggy	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	53.0	11.7	96	S	2	0.9	.....	10k	0	W	.....	0.37	9.4	Cloudy.....	
Omaha, Nebraska	28.66	728.0	29.70	754.4	69	20.6	90	NW	5	2.2	.....	5k	2s	S	Calm	0.30	7.6	Fair.....	
Oswego, New York	29.47	748.5	29.78	756.4	65	18.3	84	NW	8	3.6	.....	8c	2s	NW	NW	0	0	Cloudy	
Pembina, Dakota	28.96	735.6	29.76	755.9	58	14.4	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Philadelphia, Pa	29.74	755.4	29.79	756.7	72	22.2	95	SW	5	3.6	.....	.....	10n	.....	SW	0.11	2.8	Light rain...	
Phœnix, Arizona	28.56	725.4	30.26	768.6	72	22.2	34	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.92	455.2	30.13	765.3	33	0.6	82	W	14	6.3	.....	0	Haze	.....	.....	0.14	3.6	Hazy.....	
Pilot Point, Texas	29.09	738.9	29.86	758.4	81	27.2	74	SE	10	4.5	.....	0	2s	.....	SE	0	0	Fair	
Pioche, Nevada	23.99	609.3	29.76	755.9	58	14.4	22	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.00	736.6	29.76	755.9	70	21.1	85	NW	3	1.3	.....	.....	10s	.....	NW	0.04	1.0	Cloudy.....	
Port Huron, Michigan	29.15	741.1	29.82	757.4	63	17.1	78	N	10	4.5	.....	10cs	0	W	.....	Inap.	Inap.	Cloudy.....	
Portland, Maine	29.66	753.4	29.71	754.6	68	20.0	70	W	4	1.8	.....	1k	0	Calm	.....	0	0	Clear.....	
Portland, Oregon	30.02	762.5	30.10	764.5	54.0	12.1	87	SE	5	2.2	.....	.....	10n	.....	Calm	0.28	7.1	Light rain...	
Prescott, Arizona	24.69	627.1	30.05	763.3	64	12.5	38	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	29.90	759.4	29.92	760.0	83	28.3	79	SE	14	6.3	.....	2ck	1ks	Calm	Calm	0	0	Fair.....	
Red Bluff, California	29.43	747.5	29.77	756.1	70	21.1	36	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.53	750.0	29.74	755.4	78	25.6	91	SE	3	1.3	.....	2c	0	Calm	.....	0	0	Clear.....	
Rochester, New York	29.19	741.4	29.78	756.4	63	17.2	78	W	8	3.6	.....	1ck	0	NW	.....	0	0	Clear	
Roseburg, Oregon	29.52	749.8	30.10	764.5	49	9.4	93	Calm	0	0	.....	.....	Fog	.....	Calm	Inap	Inap.	Foggy	
Sacramento, California	29.66	753.4	29.74	755.4	63	17.1	83	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.10	739.1	29.64	752.8	69	20.6	90	NE	17	7.6	.....	.....	10n	.....	Calm	0.08	2.0	Light rain...	
St. Marks, Florida	29.87	758.7	29.88	758.9	81	27.2	87	S	12	5.4	.....	.....	10s	.....	S	2.23	56.6	Cloudy.....	
St. Paul, Minnesota	29.02	737.1	29.81	757.2	64	17.8	73	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.62	648.2	29.85	758.2	63	17.2	33	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.05	737.9	29.59	751.6	79	26.1	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.71	754.6	29.78	756.4	62	16.7	88	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.17	740.9	29.80	756.9	68	20.0	74	NE	21	9.4	.....	8cs	2s	SW	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.74	755.4	29.77	756.1	73	22.8	85	SW	10	4.5	.....	.....	10ks	.....	NW	0.41	10.4	Cloudy	
San Francisco, California	29.70	754.4	29.76	755.9	58	14.4	86	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	57	13.9	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.84	757.9	29.93	760.2	82	27.8	87	SW	5	2.2	.....	2ck	8s	Calm	Calm	0.31	7.9	Cloudy.....	
Shreveport, Louisiana	29.45	748.8	29.69	754.1	74	23.3	90	W	3	1.3	.....	0	0	.....	.....	1.39	35.3	Clear.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.95	760.7	29.98	761.5	81	27.2	87	SW	13	5.8	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
Socorro, New Mexico	25.30	642.6	29.37	746.0	64	17.8	21	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Ill	29.08	738.6	29.72	754.9	71	21.7	58	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Massachusetts	29.62	752.3	29.74	755.4	69	20.6	80	Calm	0	0	.....	5k	0	SW	.....	0	0	Fair	
Stockton, Texas	26.80	680.7	29.80	756.9	68	20.0	18	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Thatcher's Island, Mass.	29.70	754.4	29.75	755.6	68	20.0	95	SW	7	3.1	.....	0	Haze	.....	.....	0	0	Clear.....	
Toledo, Ohio,	29.16	740.7	29.82	757.4	66	18.9	74	NE	20	8.9	.....	5c	2ks	NW	NE	0.02	0.5	Cloudy.....	
Tucson, Arizona	27.36	694.9	29.92	759.7	76	24.4	40	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.70	754.4	30.20	767.1	50.0	10.0	72	SW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear...	
Uvalde, Texas	28.84	732.5	29.62	752.3	76	24.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.64	750.3	29.79	756.7	76	24.4	91	SW	10	4.5	.....	0	1s	.....	SW	0.39	9.9	Clear.....	
Virginia City, Montana	24.17	613.9	29.65	753.1	51	10.6	34	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.36	745.7	29.72	754.9	63	17.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.71	754.6	29.82	757.4	71	21.7	90	SW	6	2.7	.....	.....	10n	.....	SW	0.09	2.3	Light rain..	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.86	758.4	29.93	760.2	80	26.7	87	SW	11	4.9	.....	.....	10n	.....	SW	0.27	6.9	Light rain...	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	58	11.7	42	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.	29.72	754.9	29.76	755.9	69	20.6	96	SW	6	2.7	.....	.....	10s;fg	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	28.53	724.6	29.76	755.9	67	19.4	84	S	3	1.3	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Yuma, Arizona	29.52	749.8	29.68	753.9	71	21.7	62	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.86	758.4	29.91	759.7	82	27.8	84	SE	1.2	0.5	.....	10c	0	Calm	.....	0	0	Cloudy.....	J. B. Gordon.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	79	26.1	95	E	4	1.8	.....	8c	2s	SE	.....	2.02	51.3	Cloudy.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	26.24	641.1	.....	.....	65.4	18.6	82	Calm	.....	.....	0	0	3ks	.....	.....	0.01	0.3	.....	James Gall.
Navassa, W. I.	29.87	758.7	29.96	760.7	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.03	762.7	80	26.7	82	SE	.....	.....	2	0	5k	.....	.....	0.170	4.3	Fair.....	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Hering.
St. Thomas, W. I.	29.64	752.8	29.65	753.1	83	28.3	75	E	8	1.3	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	30.05	763.3	30.10	764.5	44.0	6.7	96	N	12	5.4	.....	2c	2ks	E	.....	0	0	Clear.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	Fog	Fog	.....	.....	.....	.....	.....	.....	0	0	Foggy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,000 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?); Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,450 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.850 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in., or 138.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Up'er. From—	CLOUDS. Direction. Low'r. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Characters.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	29.90‡	759.4‡			81	27.2	96	S	20	8.9			10		S	0.38	9.7			Storming	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡			75.5	24.2	88	Calm			0		4ks		SE	0.10	2.5			Clearing	
Adams, Mare I'd, Navy Yard, Cal.	29.79‡	756.7‡			65	18.3	89	SW			2		0							Clear	
Alaska, Pichilinque Harbor, Mexico*	29.65‡	753.9‡			78	25.6	86	SSE			3		0			0	0			Blue sky	
Alliance, N. 60° 49′, E. 1° 00′.	30.03‡	762.7‡			64	17.8	83	WSW			3		2		W					D. clouds	
Ashuelot, Yokohama, Japan	29.92‡	760.0‡			78	25.6	91	Calm			0		10					Smooth		Cloudy	
Colorado, New York, N. Y.	29.75‡	755.6‡			73	22.8	85	SW	4	1.8			10			0.01	0.3			Overcast	
Constellation, Buzzard Bay, Mass.	29.75‡	755.6‡			66	18.9	97	SSW			3		10		Calm	0	0	Mod'ate	SW	Overcast	
Constitution, Navy Yard, Brooklyn, N.Y.	29.77‡	756.1‡			75	23.9	81	SW			1		8		SW					Hazy	
Enterprise, Cowes, England	30.04‡	763.0‡			64	17.8	78	WSW			2		5?		wsw			Mod'ate		Clear?	
Essex, Rio de Janeiro, Brazil	30.14‡	765.6‡			71	21.7	95	ENE			2		5					Smooth		Hazy	
Franklin, Norfolk, Va.	30.08‡	764.0‡			77	25.0	86	SSW					10		SSW	0	0			Cloudy	
Hartford Rio de Janeiro, Brazil	30.13‡	765.3‡			73	22.8	76	NE			1		8			0	0			Hazy	
Independence, Mare I'd. Navy Yard, Cal.	29.80‡	756.9‡			67	19.4	84	SSW	1.2	0.5			0							Clear	
Kearsarge, St. Johns, New Foundland.	29.85‡	758.2‡			54	12.2	100	SE			2–4		10							Heavy rain.	
Lackawana, Apia, Samoa Is.†	29.85‡	758.9‡			77	25.0	82	SE			1		0					Smooth		Clear	
Michigan, Lake Michigan	29.81‡	757.2‡			65	18.3	78	NNE			4		0					Light	NNE	Clear	
Monocacy, N. 36° —′, E. 123° —′??	29.85‡	758.2‡			81	27.2	67	S			1		5?		S					Cloudy?	
Monongahela, Hakodadi, Japan	29.90‡	759.4‡			74	23.3	??	SE			1		n			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.91‡	759.7‡			82	27.8	91	S	14	6.3			10			0.34	8.6			Cloudy	
Onward, Callao, Peru.†	30.02‡	762.5‡			63	17.2	89	S			1		10					Long	W	Foggy	
Palos, N. 36° 17′, E. 122° 57′	29.86‡	758.4‡			78	25.6	95	SW			1		8					Smooth		Fair	
Passaic, Washington, D. C.	29.85‡	758.2‡			74	23.3	86	SW			2		10							Cloudy	
Pensacola, Arica, Peru	30.07‡	763.5‡			62	16.7	77	Calm			0		10					Long	S	Overcast	
Portsmouth, N. 43° 45′, W. 68° 40′	29.76‡	755.9‡			62	16.7	66	SW			2		5		S;W	0	0	Smooth		Misty	
Powhatan, Navy Yard, Brooklyn, N. Y.	29.79‡	756.7‡			73	22.8	90	WNW			2		10		Calm	0	0			Cloudy	
Quinnebaug, Venice, Italy	29.94‡	760.5‡			83	28.3	67	SE			2		5		SE					Fair	
Ranger, N. 34° 49′, E. 139° 14′. §	29.90‡	759.4‡			79	26.1	91	Calm			0		0					Smooth		Clear	
Richmond, Yokohama, Japan	29.91‡	759.7‡			77	25.0	??	Calm			0		10			0.15	3.8	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.69‡	754.1‡			79	26.1	95	SE			2		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	29.85‡	758.2‡			72	22.2	90	SW			2		10		SW	0	0			Overcast	
Saratoga, Newport, R. I.	29.78‡	756.4‡			64	17.8	94	NNW			2		8		Calm	0	0			D. clouds	
St. Louis, League Island, Pa	29.80‡	756.9‡			73	22.8	95	SW	6	3.6			10		SW	0.18	4.6			Raining	
Trenton, Gravesend, Eng.	30.01‡	762.2‡			69	20.6	61	NW			2		10		S;W	0	0	Smooth		Cloudy	
Tuscarora, Mare Isl. Navy Yard, Cal	29.78‡	756.4‡			62	16.7	88	SSW			1		0			0	0	Smooth		Hazy	
Vandalia, Navy Yard, Pensacola, Fla.	29.77‡	756.1‡			82	27.8	91	S			3		5		SW			Mod'ate	S	Fair	
Wabash Boston, Mass.	29.72‡	754.9‡			70	21.1	85	Calm	0	0			2			0	0			Fair	
Wachusett, Portsmouth, N. H.	29.78‡	756.4‡			68	20.0	84	Calm			0		10		Calm					Overcast	
Wyoming, Odessa, Black Sea	30.17‡	766.3‡			72	22.0	71	SE			1–2		2		SE			Smooth	SE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity

†Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio, Capt. Manry																			L. B. Walls.
S. S. Colima, Panama Bay, Panama.†		29.96‡	761.0‡	78	25.6	91	NNE			1		3		NNE	0.04 in. or 1.0 mm	Small	E	Squally	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.23‡	767.8‡				S			1				SE				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.86‡	758.4‡	86	30.0	92	NW			2	5o				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 37° 57', W. 125° 39'..†		29.90‡	759.4‡	57	13.9		NW			6		k		NW	0	Rough Cross	Confused.	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf, N. 43° 30,' W. 135° 48'.		29.92‡	760 0‡	59	15.0	100	SSW			5		9n				4	SSE	Showery	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:30 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 47° 46', W. 47° 54'		30.01‡	763.5‡	49.5	9.7	100	SW			4		10		SW	2 h'rs	Mod'ate	SW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.56‡	758.4‡				WSW			4		8		SW				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. N. 50° 21', W. 30° 34'		29.81‡	757.2‡	57	13.9	87	NW			8		6		NW	Heavy	Hard	W	Fine	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Hyannis Harbor, Vineyard Sound, Mass		29.77‡	756.1‡	71	21.7	85	SW	8	3.6			10s			0			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 22° 52', W. 35° 40'		30.12‡	765.0‡	80.5	26.9	78	SE			3		3				4	N;E	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

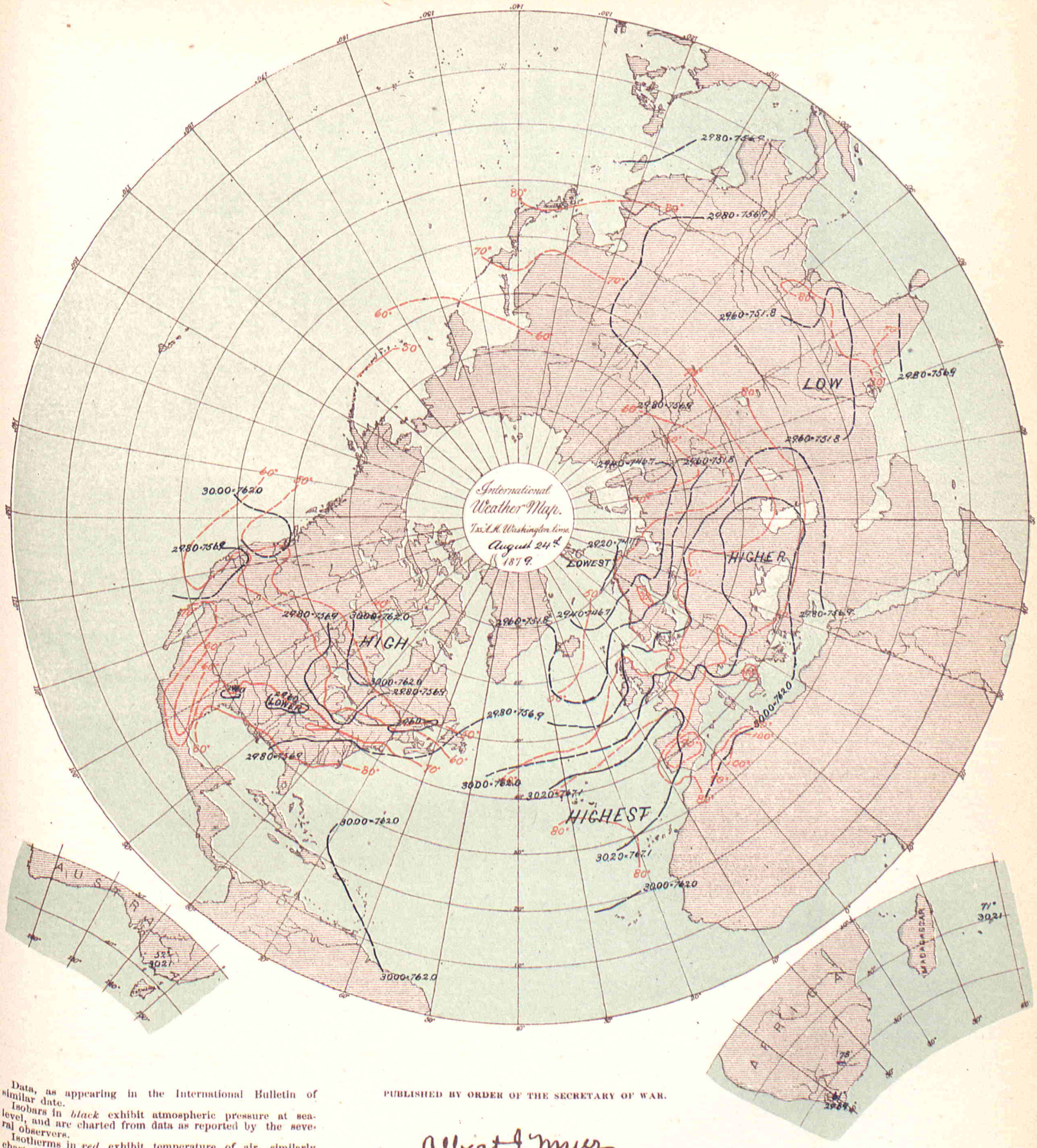
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.4	68.7	20.4	88	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.	
Nemours	.....	.....	30.04	762.9	83.1	28.4	58	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy.	Kesxuche.
Algiers	.....	.....	30.02	762.4	82.4	28.0	70	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	30.08	763.9	84.9	29.4	74	NNW	.....	.....	3	.....	2	.....	.....	0	0	Fair.	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.13	765.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grau.
Saida	.....	.....	30.02	762.4	88.3	31.3	20	NNW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.10	764.6	84.7	29.3	32	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	79.0	26.1	48	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Brugnlaux.
Laghouat	.....	.....	30.00	761.9	92.6	33.8	32	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	762.1	92.1	33.4	32	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.44	747.8	29.97	761.1	77.7	25.4	56	NE	.....	.....	3	.....	4	.....	.....	0.028	0.7	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.22	742.2	29.90	761.0	73.0	22.8	64	W	8.1	3.6	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.07	738.4	29.92	759.9	69.8	21.0	78	Calm	.....	.....	0	c	3s	.....	.....	0.085	2.15	.....	Julius Mikolik.
Gratz	28.78	731.1	29.98	761.4	73.0	22.8	74	SSW	.....	.....	3	.....	5	.....	.....	0.406	10.3	.....	Andreas Rospini.
Hermannstadt	28.52	724.3	29.86	758.4	80.6	27.0	46	NW	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.64	727.5	29.93	760.3	69.1	20.6	83	N	.....	.....	3	.....	5	.....	.....	0.339	8.6	.....	Prof. C. Wagner.
Lemberg	28.91	734.8	29.86	758.5	69.8	21.0	80	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	Dr. T. Staneckl.
Pola	29.84	757.8	29.94	760.5	84.2	29.0	60	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.51	749.5	29.95	760.8	79.9	26.6	55	N	.....	.....	4	.....	8	.....	.....	0.189	4.8	.....	Pet Pancsics.
Szegedin	29.69	754.2	29.96	761.0	76.3	24.6	62	.....	.....	.....	.....	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.87	758.6	29.97	761.2	83.8	28.8	52	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.30	744.1	30.04	763.1	76.3	24.6	52	WSW	.....	.....	3	.....	2	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.27	743.4	29.37	746.0	60.6	15.9	.....	SW	16	7.2	.....	.....	4	.....	.....	0.115	2.92	D. clouds....	W. Boswell.
Ardrossan	29.38	746.2	29.39	746.5	57	13.9	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	Wm. McNeil & G. Carrick
Armagh, Observatory	29.21	741.9	29.44	747.8	53.0	11.7	.....	SW	12	5.4	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.61	752.1	59.1	15.1	.....	SW	30	13.4	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.58	751.3	61.6	16.4	.....	SW	30	13.4	.....	.....	8	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.21	741.9	29.60	751.8	59.2	15.1	.....	SW	.....	.....	3	.....	4	.....	.....	0	0	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	83	28.3	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.63	752.6	29.72	754.9	68.0	20.0	.....	S	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	29.71	754.6	67.0	19.4	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.71	754.6	29.84	757.9	67.0	19.4	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper. R. E.
Donaghadee	29.39	746.5	29.44	747.8	57	13.9	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	J. Mac Gowan.
Dover	29.78	756.4	29.80	756.9	61	16.1	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	Showery.....	J. Costello.
Falmouth, Observatory	29.64	752.8	29.87	758.7	62.4	16.9	.....	SW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.98	761.5	76	24.4	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.41	747.0	52	11.1	.....	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.95	760.7	78.6	25.9	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds ...	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.19	741.4	29.39	746.5	58.8	14.9	.....	SSW	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean. [G.
Great Yarmouth	29.71	754.6	29.72	754.9	64	17.8	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	Showery.....	G. T. Watson.
Greenwich, Royal Obs'y	29.60	751.8	29.77	756.1	66.7	19.3	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.72	754.9	29.94	760.5	63	17.2	.....	WNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	29.90	759.4	30.02	762.5	65	18.3	.....	SW	.....	.....	6	1c	.....	.....	.....	0	0	Very fine.....	M. P. Moyle.
Holyhead	29.58	751.3	29.59	751.6	60	15.6	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.70	754.4	29.99	761.7	62.5	16.9	.....	WSW	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew, Observatory	29.75	755.6	29.78	756.4	65.3	18.5	.....	WSW	15	6.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Leicester, Museum	29.44	747.8	29.68	753.9	63.4	17.4	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	D clouds....	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	83.2	28.4	.....	NW	.....	.....	3	.....	2ck	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.23	742.4	29.32	744.7	58	14.4	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	⅝ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.01	762.2	84.2	29.0	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.50	749.3	29.69	754.1	68.0	20.0	.....	SSW	.....	.....	5	.....	3c;k	.....	SW	0.010	0.25	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.17	740.9	29.67	753.6	65.8	18.8	.....	SW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.75	755.6	65	18.3	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	29.79	756.7	29.86	758.4	63.8	17.7	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.61	752.1	29.72	754.9	61	16.1	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	⅜ clouded...	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.9	59	15.0	.....	SW	.....	.....	7	.....	5	.....	.....	.....	.....	Squally.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.33	745.0	54.2	12.3	.....	SSE	11	4.9	.....	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.76	755.9	29.83	757.7	83.2	28.4	.....	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't. W. H. Lyne.
Sheffield	29.38	746.2	29.63	752.6	66.9	19.4	.....	SW	.....	.....	6	.....	1	.....	.....	0.26	6.6	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.44	747.8	29.47	748.5	59.7	15.4	79	SW	.....	.....	8	.....	7	.....	.....	0.278	7.06	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.58	751.3	60.2	15.7	.....	SW	27	12.1	.....	.....	10	.....	.....	Blank	Blank	D. clouds....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	66.2	19.0	.....	W	.....	.....	3-4	.....	4	.....	.....	.....	.....	Squally.....	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.89	759.2	29.90	759.4	66	18.9	.....	SW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.60	751.8	29.62	752.3	59.9	15.5	.....	WSW	40	17.9	.....	.....	7	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.29	769.4	30.33	770.4	56.0	13.3	.....	W	4.0	1.8	.....	0	0	.....	.....	0	0	Cloudy.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.43	747.5	61.1	16.2	.....	W	.....	.....	2	.....	5k	.....	.....	0.13	3.3	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	30.04	763.0	30.23	767.9	70.2	21.2	60	SE	22.5	10.1	.....	0	4	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.16	766 0	54.0	12.2	86	SW	4	1.8	.....	.....	4	.....	.....	0.21	5.3	.....	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.32	744.7	.....	.....	.....	SW	.....	.....	3	3	3	SW	.....	0.50	12.7	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	25.82	655.8	.....	.....	53	11.7	.....	W	.....	.....	.....	0	2c	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00' E. 28° 35'	.....	.....	29.88‡	758.9‡	76.2	24.6	.....	NNE	.....	.....	4	.....	7	.....	.....	.....	.....	Squally.....	Capt. W. J. L. Wharton.
German Brig "W. von Freeden" N. 48° 45', W. 14° 20'	.....	.....	29.88	758.9	61	16.1	.....	WSW	.....	.....	6	.....	5	.....	.....	7	W	Squally.....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
San José	26.25	666.7	29.97	761.2	64.0	17.8		SE			1	8c;ck;cs				Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Up'er	Low'r	Upper From—	Lower From—	Rain Inches	Millimeters	Weather	Observer
Copenhagen	29.78	756.4	29.83	757.6	64.4	18.0	58	SW			2		8						
Fanöe	29.71	754.6	29.73	755.1	62.8	17.1	77	S			6		10						
Godthaab (Greenland)	29.58	751.4	29.63	752.5				NE			4		0						
Stykkisholm (Iceland)	29.50	749.4	29.55	750.5	51.8	11.0	75	E			6		8						
Thorshavn (Faröe)	29.45	748.0	29.48	748.9	48.7	9.3	98	NE			2		10						
Vestervig	29.60	751.7	29.71	754.5	62.8	17.1	76	S			4		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Up'er	Low'r	Upper From—	Lower From—	Rain Inches	Millimeters	Weather	Observer
Alençon, Normal School	29.50	749.2	30.05	763.2	68.4	20.2	67	S			2		10kn		NW	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.82	757.4	29.93	760.1	70.2	21.2	68	SW			3		8		E	0.04	1.	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.65	753.2	29.60	759.5	66.0	18.9	62	SW			3				WNW	0.035	0.9		Klein, Commandant.
Avignon, Normal School	29.97	761.2	30.05	763.2	84.2	29	38	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.51	749.5	30.05	763.2	68.7	20.4	55	WSW			2		10n		W	0.024	0.6	Covered	O. Saillard, Director.
Beauvais, Normal School	29.70	754.4	29.95	760.8	72.1	22.3	55	WSW			2		8		W	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.24	742.8	30.11	764.9	69.8	21	60	S			1		5	NE		0.165	4.2	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.5	30.12	765.1	74.3	23.5	54	SW			1		5k	SW	SW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.40	749.1	30.03	762.8	70.7	21.5	86	SW			2		kn		SW	0	0		M. Gence, Director.
Brest, Naval Observatory	29.72	754.9	29.97	761.1	69.1	20.6	69	SW			2		5		SW	0.020	0.50		Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.72	755.0	30.12	765.0	81.0	27.2	44	WNW			1		0			0	0	Clear	September, Dir.
Caen, Normal School	29.88	758.4	29.93	760.3	65.1	18.4	64	W			2		5		W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.47	748.4	30.02	762 4	68.5	20.3	61	W			3		10		W	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	755.7	30.06	763.5	75.0	23.9	49	NW			5		10					Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.78	730.9	30.08	764.1	73.0	22.8	53	W			2		5		W	0	0		Alluard, Director.
Commercy, Normal School.	29.19	741.4	30.02	762.6	70.2	21.2	68	W			1		5kn	W	W	0.095	2.5	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.5	30.10	764.5	80.6	27	39	NW			5		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.36	745.7	30.09	764.3	77.7	25.4	59	NW			1		k		W	0	0		Ablard, Director
La Roche-sur-Yon, N. School	29.95	760.6	30.16	766.0	67.8	19.9	78	W			5		5		SW	0.012	0.3	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.71	754.5	30.00	762.1	67.6	19.8	68	SW			1		5		SW	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.22	742.3	30.12	765.0	69.8	21	65	SW			1		k	SW	SW	0	0		A. Baudry, Director.
Lorient, Naval Observatory	29.95	760.6	30.05	763.2	66.6	19.2	74	SW			2				SW	0.079	2.00		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.50	749.4	30.10	764.5	77.9	25.5	44	W			1		5		W	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.74	755.4	30.00	762.0	81.5	27.5	52	W			5		0			0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	29.04	737.5	30.05	763.3	67.8	19.9	68	SW			2		5kn	SSW	SSW			Cloudy	Barbier, Director.
Mont-Louis	25.08	637.1	30.40	772.1	67.1	19.5	67	SE	16.8	7.5					SW	0	0		M. Cave.
Nice	29.97	761.3	30.00	762.1	80.2	26.8	74	SW			1		2	W	SW	0	0	Slightly cov	M. Boissieré, Director.
Nismes, Normal School	29.84	757.9	30.01	762.2	86.0	30	73	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y			29.72	754.8	69.8	21.0	62	SW			3		4		SW	0.012	0.3		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.77	578.4			57.9	15.4		NW			1		1		NW	0	0	Clear	Gen'l de Nansouty.
Perpignan	30.01	762.2	30.11	764.8	81.7	27.6	39	NW	9.4	4.2			0			0	0		Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.2			50.4	10.2	100	W			7					0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.10	764.5	30.13	765.3	72.7	22.6	59	W			1		5	W	W	0.12	3.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.86	758.5	29.95	760.7	65.8	18.8	67	S			2		10		SW	0.039	1.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.95	760.8	29.98	761.6	63.1	17.3	79	WSW			3			WSW	WSW	0	0		Lt. Hercouet, Director.
Saint Maur (near Paris)	29.83	757.7	30.00	762.0	61.9	16.6	67	WSW			3		8		WSW	0.020	0.5		E. Renou, Director.
Tarbes, Normal School	29.06	738.2	30.11	764.9	77.0	25	83	NNW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.48	748.8	30.21	767.2	75.2	24.0	55	NW			2		3			0	0		M. Juller Mercadier.
Tours	29.86	758.4	30.06	763.4	71.6	22.0	55	SW			3		8		W	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.50	749.4	30.00	761.9	69.4	20.8	58	SW			2					0.011	0.29		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.41	746.9	30.08	764.1	80.6	27	53	SE			1		5		S	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.81	757.1	29.84	757.8	80.6	27										0.79	20.		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai).	29.72	754.9	29.75	755.6	80.2	26.8	93	ESE	11.6	5.2			4k		SE	0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.4	29.99	761.8	70.2	21.2	65	SW	.....	.....	2	.....	8	.....	.....	0.008	0.2	.....	Prof. Dr. Hoh.
Berlin	29.78	756 3	29.94	760.5	72.5	22.5	54	SW	.....	.....	4	.....	8	.....	.....	0.047	1.2	Raining	Prof. Dr. Arndt.
Breslau	29.45	748.8	30.01	762.8	67.6	19.8	65	NNW	.....	.....	1	.....	4	.....	.....	0.368	9.34	.....	Royal University Ob'y.
Carlsruhe	29.58	751.4	30.00	761.9	70.9	21.6	63	SW	.....	.....	5	.....	9	SW	.....	0.996	25.3	Raining	Albert Sens.
Cassel	29.37	746.0	29.98	761.4	70.2	21.2	65	WSW	.....	.....	2	.....	7	SW	.....	0.055	1.40	.....	Dr. H. Möhl.
Crefeld	29.73	755.2	29.89	759.3	66.0	18.9	77	W	.....	.....	5	.....	9	.....	.....	0.04	1.	.....	Director Lose.
Emden	.....	.....	29.82	757.4	65.5	18.6	42	SW	.....	.....	5	.....	8	.....	.....	0.189	4.8	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.61	752.1	29.97	761.2	73.2	22.9	.....	SW	.....	.....	3	.....	7	.....	.....	0.110	2.8	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.64	727.4	30.03	762.7	69.6	20.9	70	SW	.....	.....	5	.....	2	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.78	756.5	29.85	758.2	67.5	19.7	63	SW	.....	.....	4	.....	7cs	.....	.....	0	0	Hazy	Captain F. Hegemann.
Kiel	29.81	757.1	29.82	757.5	66.4	19.1	64	SSW	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.83	757.6	29.91	759.7	64.9	18.3	58	NW	.....	.....	5	.....	4	.....	.....	0.228	5.8	.....	Prof. E. Luther.
Köslin	.....	.....	29.87	758.7	65.8	18.8	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.54	760.4	29.95	760.8	68.0	20.0	75	SSW	.....	.....	1	.....	9	SW	.....	0.118	3.0	Showery	Prof. Bruhns, Privy Counselor.
Memel	29.82	757.3	29.86	758.5	65.1	18.4	67	W	.....	.....	5	.....	5s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.24	717.4	30.11	764.8	71.1	21.7	46	NW	.....	.....	2	.....	4	W	.....	0.004	0.1	.....	Dr. C. Lang.
Neufahrwasser	29.91	759.6	29.92	760.0	69.4	20.8	53	WSW	.....	.....	2	.....	8	.....	.....	0	0	.....	A. Lothes.
Posen	29.72	754.8	30.00	761.9	68.9	20.5	47	NW	.....	.....	5	.....	8	.....	.....	0.039	1.0	.....	Dr. Magener.
Strassburg (in Alsace)	29.51	749.6	30.04	763.1	72.1	22.3	54	WSW	.....	.....	3	.....	7	SW	.....	0.236	6.00	.....	Imp. University Observatory.
Stuttgart	29.08	738.5	29.98	761.5	72.5	22.5	51	SW	.....	.....	1	.....	4	W	.....	0.016	0.4	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.2	30.01	762.3	68.7	20.4	58	NW	7	3	.....	....	8ck	.....	W	0.236	6.0	.....	T. Hopfner.
Wustrow	29.88	758.9	29.91	759.6	64.2	17.9	72	SW	.....	.....	2	.....	10ks	.....	.....	0.188	3.5	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.9	29.89	759.3	87.8	31.0	.....	NE	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.61	752.1	29.66	753.3	82.2	27.9	77	Calm	3.0	1.3	.....	.....	10	.....	W	0	0	Threatening	
Deesa	29.17	741.0	29.64	753.0	78.9	26.1	95	NNE	7.8	3.5	.....	.....	10	.....	NNE	0.60	15.2	Showery	
Bombay	29.66	753.4	29.70	754 4	79.3	26.3	89	W	18.0	8.0	.....	.....	9	SE	WSW	0.28	7.1	D. clouds	
Poona	27.85	707.4	29.71	754.7	78.5	23.1	83	W	19.0	8.5	.....	.....	8	.. ..	W	0.01	0.3	D. clouds	
Lahore	28.86	732 9	29.58	751.4	88.4	31.3	69	E	2.6	1.2	.....	.....	2	.....	.....	0	0	D clouds	
Belgaum	27.22	691.5	29.80	757.0	67.5	19 9	98	W	11.0	4.9	.....	.....	10	.....	W	0.42	10.7	Drizzling	
Roorkee	28.72	729.4	29.60	751.9	83.2	28.4	76	NE	1.4	0.6	.....	.....	4	.....	.....	0.10	2.5	D. clouds	
Agra	29.02	737.0	29.58	751.2	81.7	27.6	87	W	4.5	2.0	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.54	724.9	29.58	751.4	77.1	25.1	91	W	4.2	1.9	.....	.....	10	.....	S	0.08	2.0	Overcast	
Lucknow	29.22	742.3	29.60	751.7	85.2	29.6	76	E	2.2	1.0	.....	.....	4	.....	NNW	0	0	D. clouds	
Allahabad	29.28	743.6	29.59	751.5	82.3	27.9	92	Calm	3.8	1.7	.....	.....	7	.....	.....	0.02	0.5	D. clouds	
Patna	29.42	747.4	29.60	752.0	82.1	27.8	89	ESE	1.8	0.8	.....	.....	6	ESE	SE	0.05	1.3	D. clouds	
Hazaribagh	27.59	700.8	29.59	751.5	76.8	24.9	85	ESE	9.7	4.3	.....	.....	10	.....	SE	0.14	3.6	Showery	
Cuttack	29.50	749.3	29.58	751.4	82.2	27.9	85	ESE	1.0	0.4	.....	.....	7	.....	.....	0.10	2.5	Drizzling	
Calcutta (Alipore)	29.62	752.4	29.65	753.0	81.5	27.7	87	S	3.0	1.3	.....	.....	8	S	.....	0	0	D. clouds	
Goalpara	29.28	743.7	29.67	753.5	81.9	27.7	85	Calm	3.1	1.4	.....	.....	1	Calm	.....	0.36	9.1	D. clouds	
Chittagong	29.63	752.7	29.72	754.9	81.9	27.7	86	SW	5.6	2.5	.....	.....	4	.....	.....	0	0	Misty	
Sibsagar	29.35	745.5	29.68	754.0	83.6	28.7	81	WNW	1.5	0.7	.....	.....	8	SW	SW	0.96	24.4	D. clouds	
Jubbulpore	28.21	716.4	29.58	750.8	79.8	26.6	91	NE	2.2	1.0	.....	.....	10	.....	NE	0.04	1.0	Drizzling	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum't and temperature. Inches.	BAROMETER. Corrected for instrum't and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'r. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.58	751.3	29.97	761.3	81.0	27.2	48	E	4.9	2.2	.....	.....	2	.....	.....	0.205	5.2	.....	Prof. Giovanni Clodig.
Milan	29.45	748.1	29.95	760.7	85.8	29.9	49	E	.....	.....	4	.....	6	SSE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.86	758.4	29.97	761.1	82.0	27.8	52	E	6.9	3.1	.....	.....	4	N	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.06	738.2	29.93	760.3	82.4	28.0	35	W	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.80	756.9	29.98	761.5	79.5	26.4	67	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.11	713.9	29.94	760.4	79.2	26.2	42	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.4	29.95	760.6	80.2	26.8	75	NE	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.70	754.4	29.95	760.6	86.0	30.0	49	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.90	759.4	29.98	761.5	79.3	26.3	63	WSW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.6	29.96	760.9	84.4	29.1	58	SW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.69	754.1	29.93	760.3	85.1	29.5	45	NNW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.08	738.5	29.92	759.9	90.3	32.4	57	NW	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.84	758.0	30.03	762.7	85.5	29.7	35	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.76	755.9	30.01	762.2	80.8	27.1	60	NE	8.1	3.6	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.86	758.5	29.94	760.4	85.6	29.8	66	SE	4.9	2.2	.....	.....	4	WNW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.0	30.00	762.1	83.1	28.4	62	SW	5.6	2.5	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima I. M. Obs'y	29.87	758.7	29.88	758.9	79.7	26.5	84	W	1.3	0.6	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.86	758.3	29.88	758 2	79.5	26.4	89	WSW	0 1	0.04	.....	.....	5ck	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29 80	758.4	29.92	759.9	78.3	25 7	82	SE	3.3	1.3	.....	.....	8k ;8	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.83	757.7	29.88	758.9	80.0	26.7	84	SW	1.8	0.8	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.98	634.4	29.95	760.8	59.4	15.2	80	Calm	.....	.....	0	..	6	.....	E	0	0	Cloudy	Prof. L. Peres.
Leon	24.36	618.7	29.97	761.3	68.0	17.2	73	NE	.....	.....	1	1c	3s	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.03	584.9	29.99	761.7	55.9	13.3	86	W	0.7	0.3	.....	.....	10pk	.....	.....	0.54	13.6	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	60.8	16 0	74	W	.....	.....	1	2c	1ks	E	E	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.83	757.6	29.84	757.9	77.7	25 4	86	S	.....	.....	2	2	3	SE	NE	0.64	16.3	½ cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.14	613.1	30.02	762.6	62.4	16.9	50	E	.....	.....	2	5	0	E	.....	0.09	2.4	½ Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossel.
Zacatecas	22.50	571.6	30.06	763.5	54.5	12.5	86	NE	.....	.....	2	4cs	0	Calm	.....	0	0	Fair	A. Nuñez.
Puebla (Catholic Institute)	23.39	594.1	30.11	764.8	55.4	13.0	76	NW	0.4	0.2	.....	.....	10k	.....	SE	1.06	26.8	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.53	750.1	29.82	757.4	78 8	26.0	95	W	.....	.....	4	.....	10n	.....	SW	Inap.	Inap.	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,536.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.86	758.5	29.86	758.5	64.8	18.2	.....	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.74	755.4	29.80	756.8	63.9	17.7	.....	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	29.75	755.6	29.75	755.6	62.6	17.0	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.130	3.3	.....	
Hellevoetsluis	29.84	757.8	29.84	757.8	63.5	17.5	82	WSW	.....	.....	5	.....	.....	.....	.....	0.020	0.5	.....	
Utrecht	29.80	756.9	29.85	758.1	68.2	20.1	69	SW	.....	.....	5	.....	5	.....	.....	0.110	0.4	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.55	750.6	29.61	752.0	61.9	16.6	68	SSE	11.0	4.9	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.49	749.0	29.53	750.0	59.7	10.4	85	SW	27	12	.....	.....	10	.....	.....	0.244	6.2	Raining.....	
Christiania	29.47	748.4	29.61	752.0	66.9	19.4	45	SSW	9	4	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.21	741.9	29.25	743.0	53.8	12.1	80	SW	9	4	.....	.....	9	.....	.....	0.075	1.9	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.08	763.9	30.26	768.6	76.6	24.8	88	W	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.7	29.99	761.7	97.2	36.2	16	WNW	3.1	1.4	.....	.....	1	WNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.6	30.19	766.8	75.7	24.3	71	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.2	30.12	765.0	80.6	27.0	45	NNW	23.7	10.6	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.32	770.0	81.7	27.6	71	SW	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa. Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			1	H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd I.			3	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello				H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			1	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.51	749.6	29.92	760.0	67.5	19.7	60	WNW	9	4	.....	.....	5k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.41	746.9	29.81	757.2	68.5	20.8	56	NW	7	3	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.45	747.9	29.68	753.8	64.8	18.2	65	W	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.54	750.4	29.56	750.8	62.1	16.7	76	NW	11	5	.....	.....	2ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.6	29.80	756.9	73.6	23.1	66	W	9	4	.....	.....	9k,cks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.87	758.8	29.95	760.6	81.0	27.2	43	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.95	760.6	29.97	761.1	77.0	25.0	76	SSE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.78	756.3	29.97	761.3	77.0	25.0	40	SSE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.12	739.6	29.65	753.1	63.5	17.5	93	SW	10.1	4.5	.....	.....	8ks	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Archangel	29.35	745.5	29.37	746.0	61.3	16.3	72	WNW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Tiflis	28.75	730.3	30.14	765.6	67.3	19.6	57	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.24	768.1	30.16	766.0	73.6	23.1	43	SSE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Krotkowo*	29.41	747.0	29.86	758.4	76.5	24.7	40	W	4	2	.....	.....	8	.....	.....	.....	.....	.....	Capt. Wisganow.
Kasan	29.43	747.6	29.69	754.1	71.8	22.1	65	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Cand. Fatjanow.
Ekaterinburg	28.63	727.2	29.56	750.9	60.8	15.8	81	NW	13	6	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Nukuss	29.91	759.6	30.13	765.3	74.8	23.8	36	NNE	16	7	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Tashkend	28.56	725.5	29.67	753.6	73.2	22.9	59	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Barnaul	28.96	735.6	29.44	747.8	61.0	16.1	43	SW	31	14	.....	.....	7	.....	.....	.....	.....	Light clouds	Teich, A. M.
Yeniseisk	29.17	741.0	29.45	748.0	62.4	16.9	84	SE	13	6	.....	.....	9	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Irkutsk																			Marks.
Peking (China)	29.50	749.2	29.64	752.8	75.0	23.9	88	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	Thunder-storm.	
Nertchinsk																			Physical Observatory.
Vladivostock	29.82	757.5	29.92	760.0	69.8	21.0	92	SE	10.1	4.5	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	81.3	27.4	70	S	1.8	0.8	.....	.....	3	.....	.....	0	0	Misty.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.03	764.1	30.14	765.5	85.3	29.6	46	NW	1.9	0.83	.....	3	1	E	.....	0	0	Cloudy.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.21	691.2	.....	.....	80.6	27.0	46	E	4.3	1.92	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.90	708.7	29.97	761.1	95.5	35.3	27	SE	6.0	2.67	.....	1	0	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.94	760.4	30.08	764.0	92.7	33.7	44	SE	3.5	1.56	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.6	30.10	764.4	77.7	25.4	70	SW	9.8	4.4	.....	0	6	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.92	760.0	29.99	761.7	78.9	26.1	86	Calm	0	0	.....	4c	0	ENE	.....	2.248	57.1	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.68	753.9	29.73	755.2	79.7	26.5	90	NW	15.7	7.0	.....	.....	10	.....	W	1.372	35.1	Raining.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.0	91.4	33.0	44	ESE	12.7	5.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.94	760.5	30.03	762.8	79.9	26.6	79	SE	8.3	3.70	.....	5cks	3k	SE	SE	1.073	27.25	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

1879—August 25.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.39	746.4	29.43	747.4	61.9	16.6	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.49	749.0	29.54	750.3	66.2	19.0	51	NW	.....	.....	4	.....	4	.....	.....	0	0	.....	
Hernosand	29.50	749.3	29.55	750.6	69.1	20.6	45	W	.....	.....	4	.....	5	.....	.....	0	0	.....	
Stockholm	29.49	749.1	29.67	753.6	66 2	19.0	56	W	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	29.67	753.6	29.73	755.1	63.3	17.4	70	W	.....	.....	6	.....	3	.....	.....	0.366	9.3	.....	
Sub-Series.																			
Upsala	29.52	749.9	29.61	752.1	69.4	20.8	60	WSW	11.4	5.1	.....	.....	3	.....	SW	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.09	728.7	30.06	763.5	73.9	23.3	45	SW	.....	.....	4	.....	2	.....	.....	0	0	Clear.....	The Observatory.
Zurich	28.47	723.2	30.06	763.4	69.4	20.8	70	W	.....	.....	2	.....	3	.....	.....	0	0	Fair.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.0 mm.; Thermometer, +2.4 Cent.; Relative Humidity, --12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	759.9	76.3	24.6	55	NNE	9	4.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.05	763.3	86.4	30.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.03	752.6	29.74	755.5	85.1	29.5	56	WNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.72	754.9	29.78	756.4	56	13.3	93	NE	8	3.6	.....	.....	10n	.....	NE	0.08	2.0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.67	753.6	29.71	754.6	60	15.6	96	N	7	3.1	.....	.....	10n	.....	.....	0.190	4.83	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.60	751.8	29.78	756.4	59.6	15.3	86	W	.....	.....	1	5cs	0	W	.....	0.02	0.5	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.03	752.6	29.79	756.7	56	13.3	87	E	.....	.....	1	.....	10ks	.....	.....	0.05	1.3	Cloudy.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.82	757.4	29.84	757.9	43	6.1	99	NE	15	6.7	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	J. McWilliams.
Fredericton, N. B	29.71	754.6	29.77	756.1	60.0	15.6	84	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Overcast....	Prof. Harrison.
*Fort Garry, Manitoba	29.07	738.4	29.86	758.9	58	14.4	97	W	4	1.8	.....	0	5ks	.....	W	0.410	10.41	Fair.....	James Stewart.
Granton, Ontario	28.78	731.0	29.80	756.4	55	12.8	93	N	.....	.....	1	1cs	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.58	751.3	29.76	754.4	60	15.6	98	Calm	0	0	.....	.....	Fog	.....	.....	0.030	1.27	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.62	749.8	29.88	758.9	60.7	15.9	80	NE	.....	.....	2	7ck	0	NW	.....	0	0	Cloudy	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.51	749.5	29.84	757.9	58	14.4	86	NE	8	3.6	.....	8c	0	NW	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.61	752.1	29.81	757.2	59	15.0	88	N	4	1.8	.....	.....	10s	.....	.....	0.02	0.5	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.21	741.9	29.89	759.2	57	13.9	87	NE	7	3.1	.....	0	0	.....	.....	0.04	1.0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.86	758.4	56.7	13.7	81	NW	.....	.....	2	0	8ks	.....	.....	0	0	Fair.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.83	757.7	57	13.9	94	N	11	4.9	.....	10ck	0	SW	.....	0	0	Fair.....	H. Morgan.
Fort Hastings, N. S	29.62	752.3	29.66	753.4	62.5	16.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.84	757.9	57	13.9	85	N	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.53	750.0	29.85	758.2	52	11.1	93	NE	.....	.....	1	.....	10n	.....	NE	0.07	1.8	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.41	747.0	29.86	758.4	57	13.9	57	NW	4	1.8	.....	0	8s	.....	N	0.02	0.5	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.67	753.6	29.72	754.9	61	16.1	90	N	.....	.....	1	.....	10n	.....	.....	0.05	1.3	Cloudy.....	Dr. Gove.
St. John, N. B	29.55	750.6	29.71	754.6	60	15.6	100	NE	9	4.0	.....	.....	Fog	.....	.....	0	0	Light fog....	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	59	15.0	81	NE	7	3.1	.....	2cs	0	NW	.....	0	0	Fair.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	753.6	29.71	754.6	61	16.1	94	NW	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.50	749.3	29.87	758.7	58	14.4	81	NE	8	3.6	.....	8cs	0	NW	.....	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	29.65	753.1	29.68	753.9	66.5	17.5	94	W	1	0.4	.....	.....	10n	.....	.....	0.05	1.3	Raining	Prof. John E. Oram.
Woodstock, Ontario	28.80	731.5	29.84	757.9	56.2	13.4	84	N	10	4.5	.....	8c;cs	0	W	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.57	751.1	29.82	757.4	57.0	13.9	94	S	.....	.....	.....	Fog	Fog	.....	.....	0.15	3.8	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.61	752.1	29.83	757.7	62	16.7	77	SW	1	0.4	.....	0	Sm'e	.....	.....	0	0	Clear	
Alpena, Michigan	29.30	744.2	29.93	760.2	59	15.0	82	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	51	10.6	93	S	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlanta, Georgia	28.72	729.5	29.80	756.9	74	23.3	90	SW	11	4.9	.....	.....	10s	.....	SW	1.53	38.9	Cloudy	
Atlantic City, New Jersey	29.73	755.1	29.74	755.4	69	20.6	100	NE	14	6.3	.....	.....	10n	.....	Calm	2 18	55.4	Light rain	
Augusta, Georgia	29.70	754.4	29.89	759.2	78	25.6	86	SW	8	3.6	.....	5k	5s	SW	SW	0.75	19 8	Cloudy	
Baltimore, Maryland	29.70	754.4	29.75	755.6	70	21.1	95	NE	9	4.0	.....	.....	10n	.....	NE	0.28	7.1	Light rain	
Barnegat, New Jersey	29.73	755.1	29.76	755.9	68	20.0	95	NE	16	7.2	.....	.....	10n	.....	E	0.17	4.3	Heavy rain	
Bismarck, Dakota	28.16	715.3	30.02	762.5	52	11.1	86	N	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	
Boerne, Texas	28.48	723.4	29.74	755.4	70	21.1	75	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	48	8.9	63	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.64	752.8	29.79	756.7	65.6	18.6	76	Calm	0	0	.....	5c	1ks	NW	Calm	0.07	1.8	Fair	
Brackettville, Texas	28.80	731.5	29 79	756.7	70	21.1	66	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.84	732.5	29.80	756.9	64	17.8	94	W	16	7.2	.....	5c	2ks	Calm	Calm	0.47	11.9	Fair	
Brownsville, Texas	29.79	756.7	29.84	757.9	78	25.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.13	739.9	29.80	756.9	69	15.0	76	NE	7	3.1	.....	9cs	Haze	W	Calm	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	68	20.0	56	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.54	750.3	29.82	757.4	59	15.0	82	Calm	0	0	.....	8cs	0	W	.....	0	0	Fair	
Cairo, Illinois	29.56	750.8	29.93	760.2	67	19.4	69	NW	6	2.7	.....	5ck	0	NW	.....	1.49	37.8	Fair	
Campo, California	27.35	694.7	29.92	760.0	49	9.4	71	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.87	758.7	29.88	758.9	81	27.2	87	SW	24	10 7	.....	8cs	0	SW	.....	0.06	1.5	Cloudy	
Cape Henry, Virginia	29.88	758.9	29.89	759.2	78	25.6	82	SE	3	1.3	.....	5ck	2ks	NE	NE	0.11	2.8	Cloudy	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759 4	81	27.2	87	SW	28	12.5	.....	5cs	0	Calm	.....	0	0	Fair	
Cape May, New Jersey	29.69	754.1	29.72	754.9	75	23.9	90	SW	19	8.5	.....	.....	10ks	.....	SW	2.03	51.6	Cloudy	
Castroville, Texas	29.13	739.9	29.80	756.9	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.86	758.4	29.91	759.7	82	27.8	87	SW	11	4.9	.....	0	8s	.....	SW	0.65	16.5	Cloudy	
Charlotte, North Carolina	28.96	735.6	29.72	754.9	75	23.9	90	S	7	3.1	.....	.....	10s	.....	SW	0.45	11.4	Cloudy	
Chattanooga, Tennessee	29.03	737.3	29.79	756.7	70	21.1	80	SW	11	4.9	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	45	7.2	61	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.26	743.2	29.92	760.0	66	18.9	54	NE	8	3.6	.....	5c	0	SW	.....	0	0	Fair	
Cincinnati, Ohio	29.08	738.6	29.71	754.6	60	15.6	94	N	12	5.4	.....	.....	10n	.....	NE	2.45	62.2	Light rain	
Cleveland, Ohio	29.07	738.4	29.77	756.1	62	16.7	72	NE	9	4.0	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Coleman City, Texas	28.15	715.0	29.74	755.4	70	21.1	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28.88	733.5	29.69	754.1	58	14.4	88	NE	17	7.6	.....	.....	10n	.....	NE	2.04	51.8	Light rain	
Concho, Texas	28.03	711.9	29.62	752.3	73	22.8	59	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.43	747.5	29.87	758.7	76	24.4	73	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.35	745.5	29.98	761.5	57	13.9	75	N	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Deadwood, Dakota	25.44	646.2	.....	.....	49	9.4	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.82	732.0	29.92	760.0	82	27.8	56	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.15	740.4	29.90	759.4	73	22.8	85	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.90	632.4	30.12	765.0	62	16.7	32	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.13	739.9	29.98	761.5	62	16.7	83	Calm	0	0	.....	5cs	Haze	W	Calm	0	0	Hazy	
Detroit, Michigan	29.20	741.7	29.85	758.2	58	14.4	82	N	7	3.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Dodge City, Kansas	27.37	695.2	29.55	750.6	68	20.0	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.33	745.0	30.03	762.7	55	12.8	62	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.33	745.0	29.99	761.7	59	15.0	94	NE	2	0.9	.....	.....	10n	.....	NE	0.18	4.6	Heavy rain	
Eagle Pass, Texas	29.14	740.1	29.83	757.7	76	24.4	69	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.65	753.1	29.72	754.9	60	15.6	83	N	12	5.4	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.18	665.0	.....	.....	64	17.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.09	738.9	29.77	756.1	62	16.7	72	NE	6	2.7	.....	.....	10c	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.37	746.0	30.02	762.5	56	13.3	75	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.34	719.8	29.94	760.5	75	22.9	37	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.95	709.9	29.79	756.7	44	6.7	75	NE	1	0.4	.....	2cs	0	NW	.....	0	0	Fair	
Fort Custer	26.85	682.0	.....	.....	.....	.....	.....	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.25	641.3	30.21	767.3	59	15.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	73	22.8	35	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.68	728.5	29.89	759.2	72	22.2	71	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.45	697.2	.....	.....	41	5.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.79	703.6	29.52	749.8	74	23.3	68	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.77	756.1	75	23.9	68	SE	16	7.2	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.14	714.7	.....	.....	44	6.7	75	W	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	63	17.2	28	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.31	719.1	29.81	757.2	76	24.4	73	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.83	758.9	29.92	760.0	81	27.2	91	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Graham, Texas	28.84	732.5	29.85	758.2	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.95	760.7	58	14.4	70	NE	8	3.6	.....	2ck	0	SE	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.88	758.9	69	20.6	85	NE	10	4.5	.....	0	5s	.....	NW	0	0	Threatening	
Indianapolis, Indiana	29.06	738.1	29.82	757.4	60	15.6	88	Calm	0	0	.....	.....	10s	.....	Calm	1.74	44.2	Cloudy	
Indianola, Texas	29.90	759.4	29.92	760.0	82	27.8	83	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.84	732.5	29.92	760.0	75	23.9	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.97	761.2	82	27.8	83	SW	12	5.4	.....	2cs	5s	Calm	SW	0.19	4.8	Fair	
Keokuk, Iowa	29.32	744.7	29.92	760.0	60	15.6	77	NE	6	2.7	.....	2c	0	W	.....	0	0	Clear	
Key West, Florida	29.96	761.0	29.99	761.7	85	29.4	76	SE	8	3.6	.....	2cs	2k	Calm	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.78	756.4	29.80	756.9	79	26.1	87	SW	20	8.9	.....	10cs	0	SW	.....	0.13	3.3	Cloudy	
Knoxville, Tennessee	28.76	730.5	29.72	754.9	72	22.2	71	SW	20	8.9	.....	.....	10ks	.....	SW	0.13	3.3	Threatening	
La Crosse, Wisconsin	29.28	743.7	29.98	761.5	69	20.6	80	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.04	661.4	30.20	767.1	56	13.3	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.49	749 0	29.82	757.4	80	26.7	55	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.13	739.9	29.94	760.5	71	21.7	62	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.64	752.8	29.99	761.7	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.52	749.8	29.85	758.2	64.5	18.1	81	SE	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.17	740.9	29.71	754.6	60	15.6	94	NW	15	6.7	.....	.....	10n	.....	N	3.78	96.0	Light rain	
Lynchburg, Virginia	29.04	737.6	29.98	753.9	77	25.0	82	S	6	2.7	.....	.....	10s	.....	SW	0.56	14.2	Cloudy	
Madison, Wisconsin	29.01	736.8	29.98	761.5	55	12.8	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.32	744.7	30.00	762.0	59	15.0	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.30	718.8	30.00	762.0	72	22.2	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.62	752.3	29.96	761.0	64	17.8	89	W	1	0.4	.....	0	Sm'e	.....	Calm	0.03	0.8	Clear	
Milwaukee, Wisconsin	29.24	742.7	29 94	760.5	62	16.7	72	N	7	3.1	.....	1c	0	Calm	.....	0	0	Clear	
Mobile, Alabama	29.89	759.2	29.93	760.2	80.5	26.9	93	Calm	0	0	.....	0	2s	.....	SW	Inap.	Inap.	Fair	
Montgomery, Alabama	29.70	754.4	29.93	760.2	75	23.9	95	W	6	2.7	.....	2k	6ks	W	W	0.01	1.0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	26.66	728.0	29.58	751.3	69	20.6	85	Calm	0	0	.....	.....	10s	.....	W	0.36	9.1	Cloudy	
Mt. Washington, N. H.	23.70	602.0	30.06	763.5	38	3.3	63	NW	5	2.2	.....	8k	0	NW	.....	0	0	Cloudy.....	
Nashville, Tennessee	29.27	743.4	29.78	756.4	69	20.6	85	NW	13	5.8	.....	.....	10ks	.....	NW	0.33	8.4	Cloudy.....	
New Haven, Connecticut	29.68	753.9	29.80	756.9	64	17.8	73	N	6	2.7	.....	5cs	5s	Calm	Calm	0.38	9.7	Cloudy.....	
New Orleans, Louisiana	29.87	758.7	29.92	760.0	83	28.3	83	W	5	2.2	.....	.....	9s	.....	NW	Inap.	Inap.	Cloudy	
Newport, Rhode Island	29.74	755.4	29.79	756.7	68	20.0	70	NW	4	1.8	.....	2k	0	W	.....	0	0	Fair	
New York, New York	29.62	752.3	29.78	756.4	68	20.0	60	N	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.	
Norfolk, Virginia	29.75	755.6	29.80	756.9	80	26.7	78	SW	16	7.2	.....	5ck	Haze	SW	Calm	0.18	4.6	Fair.....	
North Platte, Nebraska	27.01	686.0	29.46	748.3	65	18.3	86	S	3	1.3	.....	0	0	.....	SW	0.01	0.3	Fair.....	
Olympia, Washington Ter.	29.86	758.4	29.90	759.4	52.0	11.1	96	SW	2	0.9	.....	.....	10n	.....	Calm	0.20	5.1	Light rain..	
Omaha, Nebraska	28.82	732.0	29.86	758.4	70	21.1	70	SE	9	4.0	.....	5c	0	NW	.....	0	0	Fair.....	
Oswego, New York	29.62	749.8	29.84	757.9	61	16.1	77	SE	3	1.3	.....	8c	0	W	.....	0	0	Fair	
Pembina, Dakota	29.60	736.6	29.81	757.2	51	10.6	93	NW	4	1.8	.....	0	0	.....	.....	0	0	Fair	
Philadelphia, Pa	29.71	754.6	29.75	755.6	68	20.0	79	NE	13	5.8	.....	.....	10s;n	.....	E	0.13	3.3	Clear.....	
Phœnix, Arizona	28.65	727.7	30.37	771.4	73	22.8	35	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	39	3.9	19	W	8	3.6	.....	0	Haze	.....	.....	0	0	Hazy.....	
Pilot Point, Texas	29.14	740.1	29.91	759.7	84	28.9	83	SE	3	1.3	.....	5k	5s	S	SE	0	0	Cloudy.....	
Ploche, Nevada	24.10	612.1	29.87	758.7	62	16.7	18	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	28.90	734.0	29.67	753.6	59	15.0	88	NE	15	6.7	.....	.....	10n	.....	NE	1.66	39.6	Heavy rain..	
Port Huron, Michigan	29.21	741.9	29.85	758.2	61	16.1	71	NE	16	7.2	.....	8cs	2ks	Calm	N	0	0	Cloudy	
Portland, Maine	29.72	754.9	29.77	756.1	67	19.4	64	NW	7	3.1	.....	5k	0	W	.....	0	0	Fair.....	
Portland, Oregon	29.86	758.4	29.94	760.5	51.0	10.6	97	NW	2	0.9	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Prescott, Arizona	24.80	629.9	30.16	766.1	56	13.3	35	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	29.96	761.0	29.97	761.2	81	27.2	87	E	4	1.8	.....	5ck;k	0	Calm ;SW	.....	0.04	1.0	Fair..	
Red Bluff, California	29.40	746.7	29.75	755.6	65	18.3	44	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.69	754.1	29.90	759.4	77	25.0	91	E	3	1.3	.....	2cs	0	Calm	.....	0	0	Clear.....	
Rochester, New York	29.22	742.2	29.82	757.4	60	15.6	77	Calm	0	0	.....	5c	Haze	Calm	Calm	0	0	Fair	
Roseburg, Oregon	29.39	746.5	29.96	761.0	47	8.3	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California	29.66	753.4	29.74	755.4	67	19.4	55	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.38	746.2	29.94	760.5	62	16.7	67	N	8	3.6	.....	5cs	0	Calm	.....	0.82	20.8	Fair.....	
St. Marks, Florida	29.93	760.2	29.94	760.5	80	26.7	96	SW	7	3.1	.....	2c	2s	Calm	Calm	0.16	3.8	Fair.....	
St. Paul, Minnesota	29.13	739.9	29.93	760.2	62	16.7	83	E	2	0.9	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	62	16.7	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.23	742.4	29.78	756.4	78	25.6	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.80	756.9	29.87	758.7	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.14	740.1	29.78	756.4	66	18.9	64	NE	32	14.3	.....	.....	10ks	.....	NE	0	0	Threatening	
Sandy Hook, New Jersey	29.74	755.4	29.77	756.1	68	20.0	74	NE	20	8.9	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
San Francisco, California	29.74	755.4	29.80	756.9	56	13.3	87	SW	12	5.4	.....	0	Fog	.....	SW	0	0	Clear	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	58	14.4	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.86	758.4	29.95	760.7	80	26.7	87	SW	11	4.9	.....	0	8s	.....	SW	0.01	23.1	Fair.....	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	75	23.9	90	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.90	759.4	29.93	760.2	81	27.2	87	SW	16	7.2	.....	5ck	5s	SW	SW	0.13	3.3	Cloudy.....	
Socorro, New Mexico	25.44	646.2	29.50	749.3	55	12.8	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Ill	29.20	744.0	29.84	757.9	61	16.1	77	N	7	3.1	.....	5cs	2s	W	W	0	0	Fair.	
Springfield, Massachusetts	29.68	753.9	29.81	757.2	67	19.4	64	N	2	0.9	.....	5cs	0	W	.....	0.10	2.5	Fair	
Stockton, Texas	26.94	684.3	29.94	760.5	65	18.3	26	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.76	755.9	29.82	757.4	64	17.8	94	NW	7	3.1	.....	0	5s	.....	W	Inap.	Inap.	Fair.....	
Toledo, Ohio	29.14	740.1	29.80	756.9	59	15.0	82	N	10	4.5	.....	.....	10ks	.....	N	0	0	Clearing.....	
Tucson, Arizona	27.44	697.0	29.99	761.7	76	24.4	37	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.68	753.9	30.07	763.8	47.0	8.3	70	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	28.98	736.1	29.77	756.1	76	24.4	73	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.32	617.7	29.80	756.9	42	5.6	34	SE	4	1.8	.....	0	8s	.....	NW	0	0	Fair.....	
Visalia, California	29.37	746.0	29.73	755.1	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.60	751.8	29.70	754.4	77	25.0	86	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8k	2s	SW	SW	0.81	20.6	Cloudy.....	
Wilmington, N. Carolina	29.80	756.9	29.88	758.9	81	27.2	83	SW	12	5.4	.....	8k	0	SW	.....	0.22	5.6	Fair.....	
Winnemucca, Nevada	25.69	650.0	29.95	760.7	52	11.1	60	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.74	755.4	29.77	756.1	68	20.0	74	NW	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Yankton, Dakota	28.66	728.0	29.90	759.4	66	18.9	84	W	16	7.2	.....	.....	10n	.....	Calm	0.64	16.3	Light rain...	
Yuma, Arizona	29.60	751.8	29.75	755.6	75	23.9	64	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.92	760.0	29.97	761.2	82	27.8	83	Calm	0	0	.....	8c	0	Calm	.....	1.55	39.4	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	78	25.6	91	NW	2	0.9	.....	8c	2cs	Calm	.....	1.30	33.0	Fair.....	Chas. Hasselbrunz.
Medellin, Colombia, S. A.*	25.30	642.6	.....	.....	64.5	18.1	87	Calm	.....	.....	0	.....	10n	.....	.....	0.65	16.5	.....	James Gall.
Navassa, W. I	29.92	760.0	30.00	762.0	81	27.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0.30	7.6	Cloudy.....	Thomas Herran.
Paramaribo, D. Guinna, S. A	30.01	762.2	30.01	762.2	81	27.2	83	SE	.....	.....	2	5ck	3s	E	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	29.97	761.2	30.00	762.0	82	27.8	79	N	3.6	1.6	.....	.....	8cs	.....	S	.....	.....	.....	C. J. Hering.
St. Thomas, W. I	29.65	753.1	29.66	753.4	84	28.9	79	E	6	2.7	.....	2c	5ks	SE	.....	0.15	3.8	Clear.....	Robert Mason.
York Factory, B. A	30.02	762.5	30.07	763.8	41.0	5.0	96	W	11	4.9	.....	2c	1s	NW	NW	0	0	Fair.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m: Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?); Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡	.....	.....	80	26.7	96	WSW	.....	.....	.....	.....	10	.....	SW	0.25	6.3	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.78‡	756.4‡	.....	.....	78	25.6	88	Calm	.....	.....	0	.....	2ck;hze	.....	SW	0	0	.....	.....	Fair	
Adams. Mare I'd, Navy Yard, Cal.	29.78‡	756.4‡	.....	.....	63	17.2	94	SW	.....	.....	3–4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Pichilinque Harbor, Mexico*	29.76‡	755.9‡	.....	.....	79	26.1	91	SSE	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Blue sky	
Alliance, Spit Head, Eng.	29.84‡	757.9‡	.....	.....	63	17.2	78	W	.....	.....	4–5	.....	4	.....	W	.....	.....	.....	.....	Squally	
Ashuelot, Yokohama, Japan	29.89‡	759.2‡	.....	.....	80	26.7	87	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado. New York, N. Y.	29.76‡	755.6‡	.....	.....	63	17.2	76	NNW	2.5	1.1	.....	.....	10?	.....	.....	0	0	.....	.....	Clear?	
Constellation, Newport, R. I.	29.77‡	756.1‡	.....	.....	65.5	18.6	73	N	.....	.....	2	.....	10	.....	SW	0	0	.....	.....	Overcast	
Constitution. Navy Yard, Brooklyn, N.Y.	29.82‡	757.4‡	.....	.....	70	21.1	66	NE	.....	.....	4	.....	7	.....	NW	.....	.....	.....	.....	Cloudy	
Enterprise, Cowes, England	29.86‡	758.4‡	.....	.....	64	17.8	78	W	.....	.....	6	.....	8	.....	W	.....	.....	Mod'ate	.....	Clear	
Essex, Rio de Janeiro, Brazil	30.19‡	766.8‡	.....	.....	70	21.1	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Franklin. Norfolk, Va.	29.81‡	757.2‡	.....	.....	79	26.1	82	SSW	.....	.....	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy	
Hartford Rio de Janeiro, Brazil	30.20‡	767.1‡	.....	.....	73	22.8	76	N	.....	.....	1	.....	10	.....	SW	0	0	.....	.....	Hazy	
Independence, Mare I'd, Navy Yard, Cal.	29.82‡	757.4‡	.....	.....	67	19.4	84	SW	3.6	1.6	.....	.....	4	.....	SW	.....	.....	.....	.....	Clear	
Kearsarge, St. Johns, New Foundland.	29.71‡	754.6‡	.....	.....	61	16.1	88	NW	.....	.....	1	.....	10	.....	NW	.....	.....	.....	.....	Hazy	
Lackawana, Apia, Samoa Is.†	29.90‡	759.4‡	.....	.....	75	23.9	81	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Michigan, Milwaukee, Wis.	29.89‡	759.2‡	.....	.....	64	17.8	78	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Cheefoo, China	29.73‡	755.1‡	.....	.....	73	22.8	100	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Rainy	
Monongahela, Hakodadi, Japan	29.92‡	760.0‡	.....	.....	72	22.2	53	NNW	.....	.....	1	.....	ck	.....	.....	Very light	Very light	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	29.93‡	760.2‡	.....	.....	81	27.2	91	SW	14	6.3	.....	.....	8	.....	.....	0.7	18.	.....	.....	Fair	
Onward, Callao, Peru.†	30.02‡	762.5‡	.....	.....	63	17.2	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos. Chefoo, China	29.72‡	754.9‡	.....	.....	78	25.6	91	E	.....	.....	2	.....	10	.....	.....	.....	.....	Light	.....	Cloudy	
Passaic, Washington, D. C.	29.72‡	754.9‡	.....	.....	78	25.6	91	SW	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Pensacola, Iquique, Peru	30.07‡	763.8‡	.....	.....	61	16.1	71	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. N. 43° 57′, W. 67° 54′	29.75‡	755.6‡	.....	.....	54	12.2	93	NNE	.....	.....	1	.....	8	.....	Calm	0	0	Smooth	.....	Foggy	
Powhatan. Navy Yard, Brooklyn, N. Y.	29.85‡	758.2‡	.....	.....	67	19.4	64	NNE	.....	.....	3	.....	8	.....	NE	0.05	1.3	.....	.....	Fair	
Quinnebaug, Venice, Italy	29.96‡	761.0‡	.....	.....	81	27.2	66	SSE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Ranger, Yokohama, Japan.§	29.86‡	758.4‡	.....	.....	84	28.9	83	W	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	29.91‡	759.7‡	.....	.....	81	27.2	96	E	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.85‡	758.2‡	.....	.....	78	25.6	100	N	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	29.75‡	755.6‡	.....	.....	77	25.0	95	W	.....	.....	1	.....	10	.....	W	0.05	1.3	.....	.....	Cloudy	
Saratoga, New London, Conn.	29.80‡	756.9‡	.....	.....	60	15.6	100	NNE	.....	.....	2	.....	5	.....	Calm	0	0	.....	.....	D. clouds	
St. Louis, League Island, Pa	29.78‡	756.4‡	.....	.....	69	20.6	90	NE	5	2.2	.....	.....	10	.....	NE	0.15	3.8	.....	.....	Raining	
Trenton, Gravesend, Eng.	29.66‡	753.4‡	.....	.....	64	17.8	94	W	.....	.....	4	.....	10	.....	S;W	0.01	0.3	.....	.....	Squally	
Tuscarora, Mare Isl. Navy Yard, Cal	29.76‡	756.4‡	.....	.....	61	16.1	82	SSW	.....	.....	2–4	.....	0	.....	.....	0	0	Smooth	.....	Squally	
Vandalia, Navy Yard, Pensacola, Fla.	29.77‡	756.1‡	.....	.....	81	27.2	83	SW	.....	.....	3	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Wabash. Boston, Mass.	29.71‡	754.6‡	.....	.....	68	20.0	74	NW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Wachusett, Portsmouth, N. H.	29.83‡	757.7‡	.....	.....	67	19.4	84	NNW	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Fair	
Wyoming. N. 45° 05′, E. 30° 25′	29.97‡	761.2‡	.....	.....	75	23.9	75	SSE	.....	.....	2	.....	2	.....	SE	.....	.....	Smooth	SE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity ‡Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima, Panama Bay, Panama.†		30.01‡	762.2‡	78	25.6	91	E			1		5		S	0.05 in. or 1.3 mm	Small	E	D. clouds	Capt. Whitebur
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse,																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.15‡	765.6‡				S			1				SE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.74‡	755.4‡	85	29.4	97	SW			3		2cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 37° 55', W. 130° 56'..†		30.10‡	764.5‡	62	16.7		Var.			3		k		NW	0	Mod'ate	W	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf N. 40° 50,' W. 129° 00'.		29.98‡	760.2‡	65	18.3	78	S			3–4		0				2		Blue sky	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 46° 31', W. 52° 44'		29.69‡	754.1‡	58.0	14.4	100	WNW			1				8 h'rs	Smooth	NW	Foggy		S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany.		29.75‡	755.6‡				SW			4		10		W				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. N. 49° 26′, W. 36° 55′		29.92‡	760.0‡	56	13.3	87	SW			6		9		W	Mod'ate	Light	W	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Hyannis Harbor, Vineyard Sound, Mass		29.73‡	755.1‡	68	20.0	79	NNE	4	1.8			8k		W	0			Cloudy	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			N. B. Foss.
Brigantine "George of Halifax"																			Capt. George Gardner.
Schooner Harry and Fred.																			
§Iron Cross, N. 22° 00′, W. 37° 04′		30.12‡	765.0‡	80	26.7	78	ENE			2		4				3	NE;SE	D. clouds	Capt. W. Randall. Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden																			L. Dunbar.
Sch't A. A. Rowe, Capt. Beckwith																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Anerold. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Anerold. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

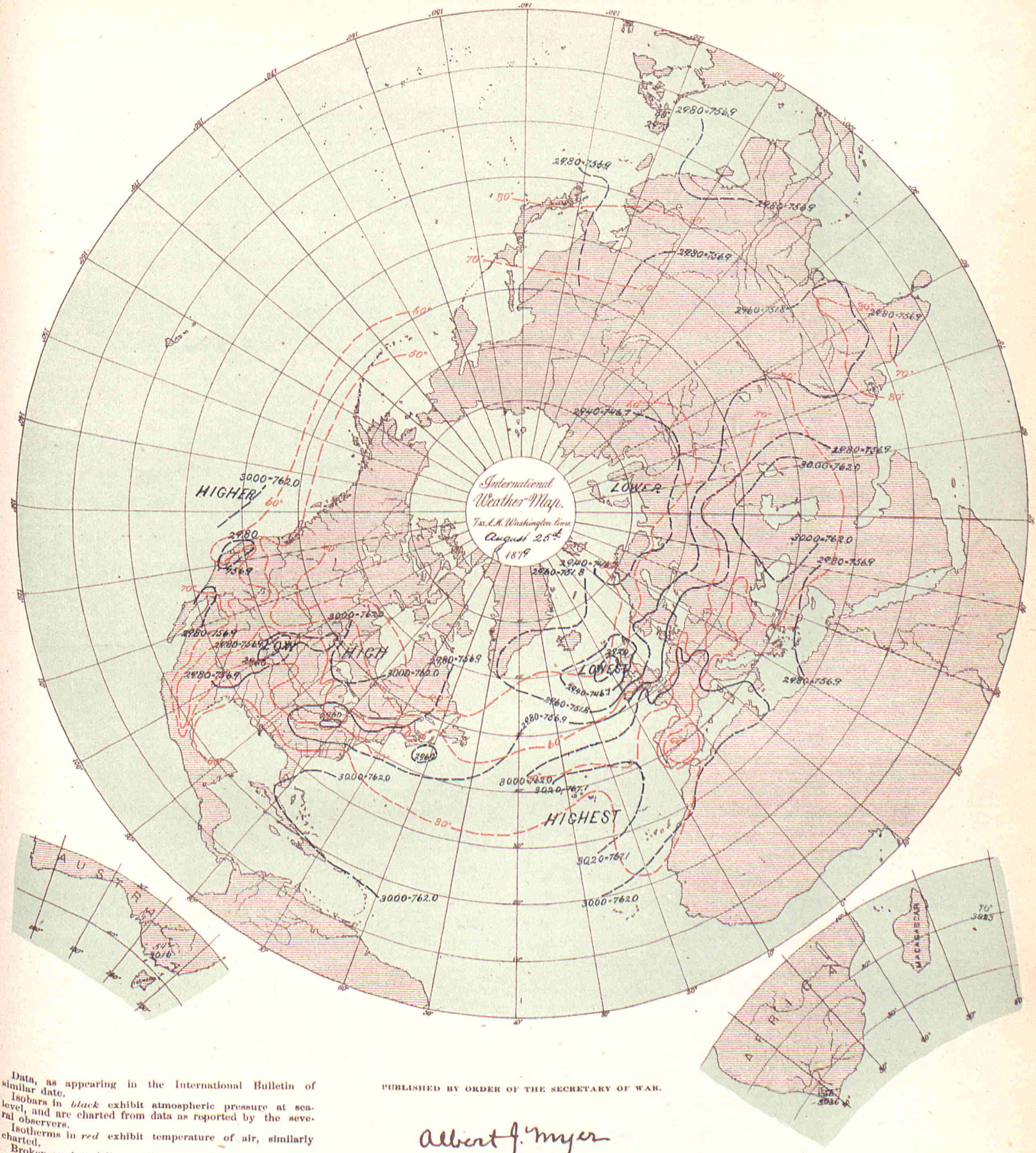
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near lar. stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrowes, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.2	69.4	20.8	68	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.97	761.3	64.2	29.0	75	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.96	761.0	80.6	27.0	66	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.04	762.9	78.1	25.6	84	NE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.2	94.3	34.6	13	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.06	763.4	87.1	30.6	29	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	75.2	24.0	47	WNW	.....	.....	6	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.00	761.9	93.6	34.2	37	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.99	761.7	101.5	38.6	27	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.39	746.5	29.91	759.7	80.2	26.8	52	NE	.....	.....	1	.....	0	.....	.....	0.886	22.5	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	742.0	29.95	760.7	75.9	24.4	60	W	7.2	3.2	.....	.....	10	.....	.....	0.004	0.1	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.07	738.4	29.91	759.6	77.0	25.0	54	S	.....	.....	2	.....	8ks	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.71	729.3	29.91	759.7	74.8	23.8	69	SSW	.....	.....	3	.....	4	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.56	725.4	29.92	759.9	78.4	25.8	54	NNW	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.54	724.8	29.82	757.3	73.9	23.3	52	NNE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.95	735.4	29.90	759.4	74.1	23.4	69	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.82	757.4	29.92	760.0	85.3	29.6	57	W	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.54	750.4	30.00	762.1	90.6	35.9	50	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.65	753.1	29.91	759.8	82.0	27.8	48	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.83	757.7	29.93	760.3	83.5	28.6	69	Calm	.....	.....	0	.....	0	.....	.....	0.362	9.2	.....	P. Busin.
Vienna	29.20	741.6	29.93	760.1	78.6	25.9	60	E	.....	.....	1	.....	8	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.21	741.9	29.31	744.5	52.2	11.2	.....	WNW	18	8.0	.....	.....	10	.....	.....	0.210	5.33	Raining.....	W. Boswell.
Ardrossan	29.42	747.3	29.44	747.8	62	16.7	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Wm McNeil &G.Carrick
Armagh, Observatory	29.32	744.7	29.54	750.3	57.3	14.1	.....	WSW	8	3.6	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.55	750.6	58.8	14.9	.....	W	36	16.1	.....	.....	3	.....	.....	.....	.....	Blue sky....	John Hartnup.
Bolton (Sharples)	.....	.....	29.52	749.8	57.6	14.2	.....	SW	42	18.8	.....	.....	7	.....	.....	.....	.....	Squally ...	Thomas Mackereth.
Bradford, Yorkshire	29.13	739.9	29.53	750.0	59.8	15.4	.....	SW	.....	.....	4	.....	6	.....	.....	0.26	6.6	Raining.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.94	760.5	83	28.3	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.51	749.5	29.60	751.8	58.5	14.7	.....	SW	.....	.....	3	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.60	751.8	57.0	13.9	.....	SW	.....	.....	5	.....	1	.....	.....	.....	.....	Showery.....	John McLaren.
Chatham, School M. E.	29.54	750.3	29.66	753.4	61.1	16.2	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	Raining.....	J. Carmell, Sapper. R. E.
Donaghadee	29.48	748.8	29.52	749.8	61	16.1	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.68	753.9	29.70	754.4	62	16.7	.....	WSW	.....	.....	6	.....	3	.....	.....	.....	.....	Gloomy.....	J. Costello.
Falmouth, Observatory	29.63	752.6	29.85	758.2	62.0	16.7	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	75	23.9	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	Drizzling....	
Galway, Queen's College	.....	.....	29.60	751.8	62	16.7	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.95	760.7	62.5	28.1	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.22	742.2	29.42	747.3	57.1	13.9	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	29.60	751.8	29.60	751.8	58	14.4	.....	WNW	.....	.....	5	.....	6	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.50	749.3	29.67	753.6	55.2	12.9	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.65	753.1	29.87	758.7	63	17.2	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.89	759.2	30.01	762.2	64	17.8	.....	SW	.....	.....	6	.....	3ck	.....	.....	0.32	8.1	Fine.....	M. P. Moyle.
Holyhead	29.60	751.8	29.61	752.1	62	16.7	.....	SW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.64	752.8	29.93	760.2	61.4	16.3	.....	W	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew, Observatory	29.64	752.8	29.68	753.9	55.2	12.9	.....	W	12	5.4	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum.	29.33	745.0	29.58	751.3	60.2	15.7	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.85	758.2	29.92	760.0	62.4	28.0	.....	NE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.26	743.2	29.35	745 5	61	16.1	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.99	761.7	83.2	28.4	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.41	747.0	29.60	751.8	60.3	15.7	.....	WNW	.....	.....	5	.....	4kd	.....	W	0.262	6.65	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.07	738.4	29.58	751.3	59.0	15.0	.....	WSW	.....	.....	4–5	.....	8	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.65	753.1	55	12.8	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.74	755.4	29.81	757.2	64.8	18.2	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.68	753.9	29.80	756.9	60	15.6	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
Saint Ann's Head	29.51	749.5	29.67	753.6	59	15.0	.....	W	.....	.....	7	.....	4	.....	.....	.....	.....	Squally.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.36	745.7	55	12.8	.....	NNW	15	6.7	.....	.....	7	.....	.....	.....	.....	D. clouds....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.83	757.7	29.89	759.2	85.2	29.6	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	Serg't.W. H.Lyne.
Sheffield	29.29	744.0	29.56	750.8	60.7	15.9	.....	SW	.....	.....	5	.....	6	.....	.....	0.05	1.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.43	747.5	29.46	748.3	62.4	16.9	77	NW	.....	.....	7	.....	8	.....	.....	0.117	2.97	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.63	760.0	57.9	14.4	.....	WSW	26	11.6	.....	.....	5	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	60.9	16.1	.....	SW	.....	.....	2–3	.....	10	.....	.....	.....	.....	Raining.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.86	758.4	29.87	758.7	65	18.3	.....	W	.....	.....	7	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.75	755.6	29.78	756.4	59.7	15.4	.....	W	24	10.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.30	769.6	30.34	770.6	58.7	14.8	.....	S	16.4	7.3	.....	0	0	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.42	747.3	62.1	16.7	.....	W	.....	.....	4	.....	6k	.....	.....	0.02	0.5	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	30.06	763.5	30.25	768.4	69.6	20.9	60	ESE	23.0	10.3	.....	0	6	.....	ESE	0.04	1.0	Squally.....	C. Melddrum.
Melbourne, Observatory	30.26	768.3	30.35	770.9	51.7	10.9	82	S	7	3.1	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.42	747.3	.....	.....	.....	N	.....	.....	3	3	0	NE	.....	0	0	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	26.00	660.4	.....	.....	62.5	16.9	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00' E. 28° 35'	.....	.....	Squally.....	Capt. W. J. L. Wharton.
German Brig "W. von Freeden" N. 49° 05', W. 10° 20'	6	NW	D. clouds....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....
Algeria	.....	.....	.....	Capt. Wm. Watson.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.25	666.7	29.97	761.2	66.6	19.2	88	SE	.....	.....	1	7clck;s	.....	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.63	752.6	29.68	753.8	64.0	17.8	65	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	Thunder-storm.	
Fanöe	29.57	751.0	29.59	751.5	58.5	14.7	83	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	
Godthaab (Greenland)	29.65	753.2	29.70	754.3	.....	.....	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.57	751.0	29.61	752.1	48.9	9.4	60	E	.....	.....	7	.....	8	.....	.....	.....	.....	.....	
Thorshavn (Farõe)	29.62	749.8	29.66	750.7	49.8	9.9	74	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.43	747.6	29.54	750.4	61.7	16.5	78	SSW	.....	.....	6	.....	7	.....	.....	.....	.....	Thunder-storm.	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.45	747.9	30.00	761.9	65.1	18.4	67	SW	.....	.....	5	.....	8kn	.....	NW	0.102	2.6	Very cloudy	Collignon, Director.
Amiens, Normal School	28.76	755.9	29 87	758.6	67.3	19.6	58	SW	.....	.....	3	.....	2	.....	NE	0	0	Slightly cl'dy	Bonvallet, Director.
Arras, Engin'r School	29.58	751.4	29.84	757.8	62.8	17.1	56	WSW	.....	.....	3	.....	.....	.....	WNW	0.008	0.2	.....	Klein, Commandant.
Avignon, Normal School	29.91	759.6	29.98	761.6	78.8	26	64	NW	.....	.....	1	.....	5	.....	SW	0.08	2.	Cloudy	Giraud, Director.
Bar-sur-Seine	29.43	747.6	29.97	761.3	64.4	18.0	62	NW	.....	.....	2	.....	8kn	.....	W	0.008	0.2	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.63	752.5	29.86	759.0	68.2	20.1	48	WSW	.....	.....	3	.....	8	.....	W	0.008	0.15	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.15	740.4	30.03	762.8	60.8	16	80	SE	.....	.....	1	.....	10	SW	.....	0.12	3.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.08	738.6	30.01	762.2	60.8	16	89	S	.....	.....	1	.....	10n	NE	NE	.....	.....	Raining	Marlot, Director.
Bourges, Normal School	29.44	747.8	29.98	761.6	64.8	18.2	77	W	.....	.....	1	.....	k	W	W	0.24	6.	.....	M. Gence, Director.
Brest, Naval Observatory	29.69	754.2	29.94	760.4	68.0	20.0	65	W	.....	.....	3	.....	6	.....	W	0.049	1.25	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.62	752.4	30.02	762.4	79.2	26.2	38	WNW	.....	.....	2	.....	5	SSE	SSE	0	0	Cloudy	September, Dir.
Caen, Normal School	29.81	757.1	29.88	759.0	67.8	19.6	51	W	.....	.....	5	.....	5	.....	W	0	0	Cloudy	M. Bietrin, Director.
Chartres, Normal School	29.48	748.9	30.04	762.9	68.0	20	81	W	.....	.....	2	.....	6	.....	W	0	0	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.5	29.93	760.3	67.5	19.7	65	NW	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.71	729.2	30.02	762.6	69.3	20.7	75	SW	.....	.....	1	.....	10	.....	.....	0.169	4.3	.....	Alluard, Director.
Commercy, Normal School	29.10	739.1	29.91	759.7	60.8	16	89	W	.....	.....	1	.....	5kn	W	W	.....	.....	Raining	Dr. Coulet, Director.
Commune de Grênsque*	28.91	734.3	30.05	763.3	59.8	32.1	29	SW	.....	.....	2	.....	5	NW	W	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.31	744.5	30.07	763.6	64 8	18.2	90	N	.....	.....	2	.....	10	.....	.....	.....	.....	Thunder-storm.	Ablard, Director.
La Roche-sur-Yon, N. School	29.94	760.4	30.15	765.8	68.0	20.0	54	WSW	.....	.....	5	.....	5	.....	WSW	0.209	5.3	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.67	753.6	29.97	761.2	65.1	18.4	57	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.16	740.6	30.06	763.4	62.6	17	92	SSW	.....	.....	1	.....	10	SSW	SSW	.....	.....	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.93	760.1	30.03	762.7	65.5	18.6	71	WSW	.....	.....	5	.....	.....	.....	WSW	0.244	6.20	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.44	747.8	30.05	763.2	66.2	19.0	84	NE	.....	.....	1	.....	10	.....	.....	0.264	6.7	Light rain	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.69	754.0	29.95	760.6	79.5	26.4	44	WSW	.....	.....	1-2	.....	8	.....	WSW	0.055	1.4	.....	E. Stephan, Director
Mirecourt, Normal School	28.95	735.4	29.98	761.5	61.9	16.6	77	W	.....	.....	2	.....	8n	W	W	.....	.....	Very cloudy	Barbier, Director
Mont-Louis	24.97	634.2	30.28	769.2	61.4	18.0	80	ENE	16.8	7.5	.....	.....	10	.....	.....	.....	.....	Raining	M. Olave.
Nice	29.93	760.3	29.97	761.3	79.5	26.4	74	SE	.....	.....	2	.....	2	W	SE	0	0	Slightly cov	M. Boissieré, Director.
Nismes, Normal School	29.79	756.6	29.98	761.4	91.0	32.8	65	NW	.....	.....	1	.....	5	.....	NW	0.04	1.	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.6	763.3	.....	.....	67.5	19.7	60	W	.....	.....	3	.....	5	.....	W	Inap.	Inap.	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.68	576.0	.....	.....	59.0	15.0	.....	SW	.....	.....	2	.....	10	.....	SW	0.024	0.6	Threatening	Gen'l de Nansouty.
Perpignan	29.93	760.2	30.03	762.8	76.5	24.7	66	E	5.6	2.5	.....	.....	9	.....	NW	0.016	0.4	Threatening	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.27	641.9	.....	.....	47.8	8.8	100	W	.....	.....	5	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.05	763.2	30.08	764.0	71.1	21.7	66	W	.....	.....	1	.....	8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.81	757.2	29.90	759.4	64.4	17.8	67	S	.....	.....	3	.....	8	.....	SW	0.087	2.2	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.91	759.8	29.95	760.6	66.0	18.9	58	WSW	.....	.....	5	.....	5	SW	SW	0.017	0.43	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.76	756.0	29.93	760.3	65.8	18.8	67	WSW	.....	.....	5	.....	7	WSW	W	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.16	740.6	30.21	767.2	73.4	23	66	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.42	747.2	30.14	765.6	68.2	20 1	71	NW	.....	.....	2	.....	9	.....	.....	.....	.....	.....	M. Julier Mercadier.
Tours	29.80	757.0	30.00	762.0	70.3	21.3	55	WNW	.....	.....	2	.....	8	.....	WNW	0.020	0.5	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.45	747.9	29.94	760.4	65.5	18.6	54	NW	.....	.....	5	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.34	745.3	30.04	763.1	64.4	18	80	NW	.....	.....	1	.....	10	.....	N	0.295	7.5	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.71	754.5	29.73	755.1	81.1	27.3	89	SE	11.9	5.3	.....	7c	.....	SW	.....	0	0	Very cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grésque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Grésque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,656.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.8	29.89	759.1	66.4	19.1	80	S	.....	.....	2	.....	10	S	....	0.307	7.8	Raining	Prof. Dr. Hoh.
Berlin	29.66	753.3	29.82	757.5	71.6	22.0	61	S	.....	.....	3	.....	7	.....	.....	0.059	1.5	.....	Prof. Dr. Arndt.
Breslau	29.39	746.4	29.91	759.8	73.6	23.1	54	SSE	.....	.....	2	.....	9	.....	.....	0	0	....	Royal University Ob'y.
Carlsruhe	29.48	748.8	29.89	759.3	69.8	21.0	98	SW	.....	.....	4	.....	10	SW	.....	0	0	.....	Albert Sens.
Cassel	29.19	741.5	29.80	756.8	70.9	21 6	48	SSW	.....	.....	2	.....	6	SW	....	0	0	.....	Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	67.6	19.8	52	SW	.....	.....	5	.....	8ks	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.66	753.3	63.5	17.4	64	SW	.....	.....	5	.....	10	.....	.....	0.150	3.8	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.49	749.1	29.85	758.2	64.2	17.9	.....	SW	.....	.....	3	.....	10	.....	.....	0.075	1.9	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.52	724.4	29.90	759.5	71.1	21.7	72	WSW	.....	.....	3	.....	10	WSW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.66	753.3	29.72	755.0	65.1	18.6	81	SW	.....	.....	5	.....	5k	.....	.....	0.126	3.2	.....	Captain F. Hegemann.
Kiel	29.67	753.5	29.68	753.9	65.7	18.7	55	SW	.....	.....	4	.....	4	.....	.....	0.328	8.32	....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.5	29.83	757.6	67.6	19.8	62	W	.....	.....	6	.....	2	.....	.....	0.083	2.1	....	Prof. E. Luther.
Köslin	.....	.....	29.78	756.3	65.5	18.5	.....	W	.....	.....	2	.....	2	.....	.....	0.303	7.7	.....	H. Müller.
Leipsic Observatory	29.44	747.7	29.85	758.2	63.0	17.2	87	SW	.....	.....	3	.....	10	WSW	.....	0.028	0.7	Raining	Prof. Bruhns, Privy Counselor.
Memel	29.72	754.9	29.77	756.1	66.6	18.9	73	WSW	.....	.....	6	.....	2s	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.10	713.8	29.96	761.0	74.3	23.5	48	NW	.....	.....	4	.....	9	W	.....	0	0	....	Dr. C. Lang.
Neufahrwasser	29.84	757.9	29.85	758.3	69.8	21.0	46	SW	.....	.....	3	.....	5	....	.....	0.091	2.3	....	A. Lothes.
Posen	29.67	751.1	29.85	758.1	72.5	22.4	51	SW	.....	.....	6	.....	3	.....	.....	0.051	1.3	.....	Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	29.95	760.8	61.9	16.6	85	SW	.....	.....	2	.....	10	WSW	.....	0.010	0.26	.....	Imp. University Observatory.
Stuttgart	28.96	735.6	29.88	758.9	64.8	18.2	81	W	.....	.....	1	.....	10	.....	.....	0.319	8.1	Raining	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.5	29.92	759.9	62.8	17.1	84	W	2	1	.....	.....	10	.....	W	0.020	0.5	....	T. Hopfner.
Wustrow	29.73	755.1	29.76	755.8	62.4	16.9	66	SW	.....	.....	4	.....	5s	.....	.....	0.114	2.9	.....	E. Schultz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1.414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.7	29.93	760.1	88.5	31.4	.....	NE	.....	.....	2.5	....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.58	751.4	29.54	750.2	83.0	28.3	71	WNW	17.0	7.6	.....	.....	7	WNW	.....	0.38	9.6	Thunder-storm..	
Deesa	29.19	741.3	29.66	753.4	75.7	24.3	96	SW	6.3	2.8	.....	.....	10	.....	.....	5.13	130.3	Drizzling....	
Bombay	29.68	753.8	29.72	754.8	79.9	26.6	87	WSW	10 0	4.5	.....	.....	10	.....	WSW	0.04	1.0	Overcast.....	
Poona	27.87	707.9	29.69	754.2	71.9	22.2	92	W	18.0	8.0	.....	.....	10	Calm	W	0.03	0.8	Drizzling.....	
Lahore	28.85	732.7	29.67	751.1	68.1	31.2	64	NE	3.6	1.6	.....	.....	4	.....	.....	0	0	D. clouds.....	
Belgaum	27.22	691.4	29.79	756.6	68.1	20.1	97	WNW	8.0	3.6	.....	.....	7	SW	SW	0.12	3.0	D. clouds.....	
Roorkee	28.71	729.2	29.59	751.6	83.5	28.6	77	Calm	2.7	1.2	.....	.....	8	.....	.....	0.06	1.5	D. clouds....	
Agra	28.98	736.0	29.53	750.2	84.7	29.3	83	W	5.8	2.6	.....	.....	2	.....	Calm	0	0	....	
Nagpur	28.58	725 9	29.62	752.3	78.6	25.8	90	SW	8.9	1.7	.....	.....	8	.....	NE	0.26	6.6	Gloomy	
Lucknow	29.20	741.8	29.57	751.1	88.2	31.2	62	ENE	3.1	1.4	.....	.....	4	NW	.....	0	0	D. clouds.....	
Allahabad	29.28	743.7	29.59	751.6	84.9	29.4	79	E	3.6	1.6	.....	.....	7	.....	.....	0.28	7.1	D. clouds....	
Patna	29.42	747.3	29.60	751.8	84.6	29.2	83	E	1.5	0.7	.....	.....	6	E	E	0	0	D. clouds.....	
Hazaribagh	27.61	701.4	29.60	751.8	81.0	27.2	77	ESE	10.3	4.6	.....	.....	2	....	.....	0.01	0.3	Raining.....	
Cuttack	29.54	750.3	29.62	750.3	83.3	28.5	79	S	2.0	0.9	.....	.....	2	.....	.....	1.18	30.0	D. clouds.....	
Calcutta (Alipore)	29.62	752.4	29.64	753.0	83.6	28.6	83	SSW	4.0	1.8	.....	.....	3	S	S	0	0	D. clouds.....	
Goalpara	29.27	743.5	29.66	753.4	79.4	26.3	87	S	1.1	0.5	.....	.....	3	.....	.....	.....	.....	Showery.....	
Chittagong	29.62	752.3	29.71	754.5	82.5	28.2	67	Calm	4.7	2.1	.....	.....	5	.....	.....	0	0	Misty.....	
Sibsagar	29.38	746.2	29.71	754.7	82.4	28.0	83	WSW	2.3	1.0	.....	.....	7	W	W	0.55	14.0	D. clouds.....	
Jubbulpore	28.23	717.1	29.59	751.7	76.6	24.7	93	S	2.7	1.2	.....	.....	10	.....	SW	0.57	14.5	Overcast.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. nches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.3	29.93	760.3	82.8	28.0	53	S	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.36	745.7	29.85	758.2	84.7	29.3	48	E	.....	.....	4	.....	8	SE	.....	0.039	1.0	.....	Prof. Schiaparelli.
Padua	29.80	757.0	29.91	759.7	83.1	28.4	50	ESE	6.9	3.1	.....	.....	5	SW	.....	0.020	0.5	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.7	29.87	758.8	81.0	27.2	57	NW	3.8	1.7	.....	.....	8	S	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.78	756.3	29.96	760.9	76.0	24.8	72	SW	6.9	3.1	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	710.8	29.81	757.2	83.1	28.4	49	NNE	.....	.....	4	.....	1	W	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.85	758 2	29.90	759.4	81.9	27.7	67	E	12.5	5.6	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.2	29.94	760.5	86.0	30.0	43	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.56	758.5	29.94	760.5	79.1	26.4	59	W	2.7	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.8	29.97	761.1	86.5	30.3	54	W	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.70	754.4	29.95	760.6	85.6	29.8	47	NNE	12.7	5.6	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.68	753.7	29.93	760.1	88.9	31.6	59	NE	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.3	30.00	762.0	81.1	27.3	60	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	29.99	761.7	80.2	26.8	60	ENE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.2	29.98	761.0	84.9	29.4	66	SE	6.3	2.8	.....	.....	6	S	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.46	748.3	30.02	762.4	83.8	28.8	53	SW	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.91	759.7	29.92	759.9	81.6	27.6	81	SSW	0.7	0.3	.....	.....	5ck;cs	.....	S	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.71	754.6	29.90	759.4	81.4	27.4	83	SSE	2.4	1.1	.....	.....	1ck;s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.93	760 2	30.00	762.0	75.1	23.9	90	SSE	1.9	0.8	.....	.....	3ck;k	.....	SSW	0	0	Fair	The Staff.
Wakayama	29.89	759.2	29.94	760.5	80.3	26 8	79	SSW	4.0	1.8	.....	.....	1ck;ks	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	8	.....	E	0.09	2.2	Cloudy	P. Ceballos.
Guadalajara	25.03	635.8	30.02	762.5	59.4	15.2	75	Calm	.....	.....	0	.....	8k	NE	.....	0	0	Cloudy	Prof. L. Peres.
Leon	24.42	620.3	30.02	762.4	66.0	18.9	80	E	.....	.....	3	4c	8k	NE	E	1.00	25.3	Covered	Prof. M. Leal.
Mexico, Central Obs'y	28.07	585.9	30.02	762.4	57 4	14.1	92	Calm	0	0	.....	.....	10k	.....	NE	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	64.9	18.3	80	NW	.....	.....	2	0	10kn	.....	NE	0.04	1.0	Threatening	M. V. de Leon, M. E.
Tlacotalpam	29.91	759.7	29.92	760.0	78.1	25.6	91	S	.....	.....	1	10	0	NE	.....	0.05	1.3	Covered	Prof. M. M. Chàzaro.
San Luis Potosi	24.22	615.3	30.13	765.0	63.0	17.2	40	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.52	572.1	30.06	763.4	57.9	14.4	90	E	.....	.....	5	8ck	0	E	.....	0	0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.41	594.7	30.11	764.8	55.6	13.1	81	N	0.4	0.2	.....	.....	9ck	.....	SE	0.08	2.0	Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.59	751.6	29.58	758.9	75.7	24.8	84	E	.....	.....	3	2cs	6n	Calm	NE	0.05	1.3	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.72	754.8	29.72	754.8	64.0	17.8	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.059	1.5	.....	
Groningen	.....	.....	.....	.....	61.0	16.1	.....	S	.....	.....	4	.....	.....	.....	.....	0.071	1.8	.....	
Helder	29.59	751.6	29.59	751.6	60.8	16 0	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.126	3.2	.....	
Hellevoetsluis	29 68	753.9	29.68	753 9	62.6	17.0	67	WSW	.....	.....	7	.....	.....	.....	.....	0.020	0.5	.....	
Utrecht	29.67	753.5	29.71	754.7	62.2	16.8	89	SSW	.....	.....	5	.....	5	.....	.....	0.185	4.7	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.38	746.2	29.43	747.6	57.2	14.0	90	SE	7.8	3.5	.....	.....	8	.....	.....	0.984	25.0	Raining	
Brönö	29.37	745.9	29.41	746.9	55.4	13.0	66	SW	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.31	744.4	29.45	748.0	64.2	17.9	57	SSW	11	5	.....	.....	7	.....	.....	0.256	6.5	.....	
Tromsö	29.35	745.4	29.39	746.5	54 3	12.4	73	SW	9	4	.....	.....	8	.....	.....	0.039	1.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.98	761.6	30.17	766.3	75.2	24.0	83	W	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.9	30.08	764.1	92.7	33.7	16	NNE	4.9	2.2	.....	.....	1	NNE	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	763.1	30.13	765.3	75.7	24.3	66	NW	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754,2	30.04	762 9	81.1	27.3	29	NNE	18.6	8.3	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.14	765.6	30.23	767.8	79.3	24.1	87	SW	8.7	3.9	.....	.....	8	.....	.....	0.012	0.3	Light rain	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.95	760.7	69.8	21.0	.....	NW	.....	.....	1	.....	3	.....	NW	1	NW	D. clouds	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.	.....	.....	30.04	763.0	82.9	28.3	.....	Calm	.....	.....	0	.....	9	.....	.....	2	.....	Overcast	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.61	752.0	86.0	30.0	.....	NW	.....	.....	3	.....	10	.....	NE	1	.....	Overcast	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.46	748.3	29.87	758.6	72.0	22.2	6	SW	11	5	.....	.....	3kc	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.45	747.9	29.85	758.2	67.8	19.9	60	S	2	1	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.49	749.1	29.72	755.0	64.4	18.0	70	SSW	9	4	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.68	753.9	29.70	754.3	65.8	18.8	56	SSW	16	7	.....	.....	6k;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.29	743.9	29.89	759.3	73.6	23.1	56	W	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	82.6	28.1	41	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.95	760.8	29.97	761.3	73.4	23.0	64	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.37	746.1	29.90	759.5	68.5	20.3	57	SSW	7.8	3.5	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.74	755.5	29.94	760.5	77.7	25.4	41	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.53	750.1	29.55	750.6	61.7	16.5	69	WNW	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.54	724 9	29.89	759.1	79.2	26.2	48	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.11	764.9	30.03	762.8	77.9	25.5	31	SE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.45	748.0	29.91	759.6	67.6	19.8	71	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.49	749.1	29.75	755.7	68.7	20.4	52	WNW	18	8	.....	.....	2ks	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.62	727.0	29.55	750.6	63.1	17.3	73	W	45	20	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.80	756.9	30.02	762.6	78.8	26 0	30	NNE	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.41	721.7	29.50	749.3	77.4	25.2	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.40	746.8	29.69	759.2	58.8	14.9	60	W	9	4	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.45	748.0	29.73	755.2	49.8	9.9	92	SSE	11	5	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.53	750.1	29.67	753.7	72.9	22.7	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.75	755.6	29.85	758.1	68.4	20.2	89	SE	28.0	12.5	.....	.....	10n	.....	.....	.....	.....	Light rain	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.88	758.9	29.98	761.5	82.4	28	66	SSW	1.6	0.72	.....	.....	4	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.09	764.3	30.15	765.7	70.0	21.1	81	NW	2.4	1.06	.....	.....	10	.....	.....	0.091	2.3	Covered	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.15	689.6	.....	.....	74.5	23.6	49	NE	7.8	3.48	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27 80	706 0	29.85	758.1	96.4	35.8	21	SW	11.2	5.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.83	757.6	29.97	761.2	95.4	35.2	38	NE	3.1	1.39	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.8	30.03	762.8	74.5	23.6	64	NE	0	0	.....	0	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.91	759.8	29.98	761.5	79.4	26.3	87	ESE	2.9	1.3	.....	8ck	0	ENE	.....	0.063	1.6	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.71	754.6	29.77	756.0	82.4	28.0	83	WSW	11.2	5.0	.....	.....	9n	.....	W	0.287	7.3	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.3	29.99	761.7	82.9	28.3	68	WSW	10.6	4.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.94	760.4	30.03	762.7	82.4	28.0	77	SE	1.3	0.60	.....	2s	2k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.47	748.6	29.51	749.6	59.0	15.0	.....	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Umea	29.47	748.4	29.52	749.7	63.0	17.2	63	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Hernosand	29.41	747.1	29.47	748.4	61.5	16.4	79	SSE	.....	.....	6	.....	7	.....	.....	0.205	5.2	.....	
Stockholm	29.37	746.0	29.55	750.5	58.6	14.8	87	WSW	.....	.....	4	.....	10	.....	.....	0.173	4.4	.....	
Wisby	29.60	751.8	29.66	753.3	63.7	17.6	67	WNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																0	0	.....	
Upsala	29.41	747.0	29.50	749.2	55.6	13.1	97	SSW	6.3	2.8	.....	.....	7	.....	WSW	0.243	6.17	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	726.9	30.02	762.5	63.0	17.2	90	SW	.....	.....	3	.....	10	.....	.....	0.165	4.2	Covered.....	The Observatory.
Zurich	28.97	720.6	29.98	761.6	61.7	16.4	88	W	.....	.....	4	.....	10	.....	.....	0.315	8.0	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −0.7 mm.; Thermometer, −3.6 Cent.; Relative Humidity, +33 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	75.9	24.4	55	NNE	27	12.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.8	83.3	28.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.62	752.3	29.73	755.2	82.8	28.2	60	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.94	760.5	30.00	762.0	59	15.0	76	NE	6	2.7	.....	8k	2ks	NE	NE	Inap.	Inap.	Fair	G. A. Bain.
Charlottetown, P. E. Island	29.88	758.9	29.92	760.0	58	14.4	88	N	11	4.9	.....	.....	10s	.....	N	0.020	0.51	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.97	761.2	58.8	14.9	78	NE	.....	.....	3	0	2s	.....	.....	0	0	Fair..	James Smith, M. A.
Dalhousie, N. B	29.85	758.2	30.02	762.5	57.5	14.2	78	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
Esquimgult, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.02	762.5	30.04	763.0	47	8.3	99	NW	5	2.2	.....	2k	2s	Calm	Calm	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	29.96	761.0	30.02	762.5	55.7	13.2	77	NE	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. Harrison.
*Fort Garry, Manitoba	29.03	737.3	29 84	757.9	54	12.2	83	S	13	5.8	.....	0	2s	.....	S	0	0	Fair	James Stewart.
Granton, Ontario	28.93	734.8	30.01	762.2	59	15.0	88	Calm	.....	.....	0	1c	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.78	756.4	29.90	759.4	60	15.6	90	Calm	0	0	.....	.....	8ks	.....	N	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.68	753.9	30.03	762.7	61.9	16.6	83	E	.....	.....	1	1ck	0	E	.....	0	0	Fine	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.67	753.6	30.00	762.0	59	15.0	80	NE	13	5.8	.....	2k	0	NE	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.80	756.9	30.00	762.0	58	14.4	73	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.35	745.5	30.03	762.7	60	15.6	88	N	3	1.3	.....	2k	5ks	N	N	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.02	762.5	60.2	15.7	85	E	.....	.....	1	0	2s	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.32	744.7	30.00	762.0	61	16.1	94	N	8	3.6	.....	5k	0	NE	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	29.85	758.2	29.90	759.4	61.6	18.1	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.02	762.5	57	13.9	92	N	4	1.8	.....	2k	8ks	NE	N	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.71	754.6	30.03	762.7	56	13.3	87	E	.....	.....	5	0	2s	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.59	751.6	30.03	762.7	60	15.6	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear... ..	W. H. McIntyre.
St. Andrews, N. B	29.90	759.4	29.95	760.7	56	13.3	83	NE	.....	.....	3	.....	8ks	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.80	756.9	29.96	761.0	55	12.8	87	NW	13	5.8	.....	.....	10ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.34	745.2	30.03	762.7	61	16.1	86	N	5	2.2	.....	8k	0	.....	.....	0	0	Cloudy.....	K Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.77	730.7	30.03	762.7	57.7	14.3	87	N	4	1.8	.....	1ck	2s	.....	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.89	759.3	58	14.4	96	E	6	2.7	.....	.....	10n	.....	E	Inap.	Inap.	Cloudy.	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.02	762.5	62	16.7	74	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.87	758.7	29.90	759.4	59.0	15.0	94	N	9	4.0	.....	.....	10k;s	.....	.....	0.19	4.8	Fair.....	Prof. John E. Oram.
Woodstock, Ontario	28.92	734.6	29.96	761.0	61.8	16.0	74	NW	6	2.7	.....	1k	1s	.....	.....	0	0	Clear.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.98	761.5	48.0	8.9	85	NE	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.94	760.5	61	16.1	82	N	5	2.2	.....	1c	2s	W	N	0.02	0.5	Fair	
Alpena, Michigan	29.43	747.5	30.06	763.5	60	15.6	82	NW	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy.	
Atcha, Aleutian Is , Alaska	.....	.....	.....	.....	52	11.1	100	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlanta, Georgia	28.80	731.5	29.92	760.0	60	15.6	82	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.74	755.4	29.75	755.6	65	18.3	100	NE	32	14.3	.....	.....	10s	.....	NE	0.30	7.6	Threatening	
Augusta, Georgia	29.76	755.9	29.95	760.7	69	20.6	65	NW	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Baltimore, Maryland	29.78	756.4	29.83	757.7	62	16.7	88	N	10	4.5	.....	.....	10s	.....	NE	1.32	33.5	Threatening	
Barnegat, New Jersey	29.74	755.4	29.76	755.9	64	17.8	94	NE	32	14.3	.....	.....	10n	.....	NE	1.04	26.4	Light rain	
Bismarck, Dakota	28.12	714.2	29.98	761.5	58	14.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.46	722.9	29.72	754.9	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.98	685.3	29.94	760.5	57	13.9	62	E	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.78	756.4	29.93	760.2	58	14.4	94	NE	21	9.4	.....	.....	10n	.....	NE	0.18	4.8	Light rain	
Brackettville, Texas	28.86	733.0	29.86	758.4	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.90	734.0	29.86	758.4	63	17.2	100	SW	4	1.8	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	
Brownsville, Texas	29.87	758.7	29.91	759.7	77	25.0	95	Calm	0	0	.....	2k	0	E	.....	0.01	0.3	Clear	
Buffalo, New York	29.29	744.0	29.97	761.2	62	16.7	77	NE	6	2.7	.....	8ck	Haze	N	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	70	21.1	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.70	754.4	29.99	761.7	53	11.7	93	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	
Cairo, Illinois	29.71	754.6	30.09	764.3	68	20.0	84	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Campo, California	27.34	694.4	29.91	759.7	53	11.7	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.77	756.1	29.78	756.4	75	23.9	72	SW	15	6.7	.....	Haze	2s	.....	SW	Inap.	Inap	Hazy	
Cape Henry, Virginia	29.71	754.6	29.72	754.9	69	20.6	90	NW	12	5.4	.....	.....	10n	.....	Calm	Inap	Inap	Light rain	
Cape Lookout, N. Carolina	29.78	756.7	29.80	756.9	75	23.9	60	W	24	10.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cape May, New Jersey	29.69	754.1	29.72	754.9	66	18.9	94	NE	28	12.5	.....	.....	10ks	.....	NE	0	0	Threatening	
Castroville, Texas	29.20	741.7	29.88	758.9	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.83	757.7	29.89	759.2	71	21.7	66	NW	8	3.6	.....	0	0	.....	.....	0.15	3.8	Clear	
Charlotte, North Carolina	29.05	737.9	29.83	757.7	68	20.0	60	NW	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Chattanooga, Tennessee	29.23	742.4	30.02	762.5	62	16.7	77	Calm	0	0	.....	1ck	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	55	12.8	28	W	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Chicago, Illinois	29.39	746.5	30.06	763.5	66	18.9	64	S	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.42	747.3	30.06	763.5	61	16.1	77	N	3	1.3	.....	0	Fog	.....	Calm	0.42	10.7	Clear	
Cleveland, Ohio	29.30	744.2	30.00	762.0	65	18.3	68	N	6	2.7	.....	.....	10ks	.....	NE	0.01	0.3	Cloudy	
Coleman City, Texas	28.21	716.5	29.87	758.7	71	21.7	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.20	741.7	30.02	762.5	58	14.4	88	N	7	3.1	.....	0	Fog	.....	Calm	0.17	4.3	Clear	
Concho, Texas	28.10	713.7	29.72	754.9	70	21.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	29.98	761.5	73	22.8	76	E	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.44	747.8	30.07	763.8	63	17.2	57	SE	1	0.4	.....	2cs	0	NW	.....	0	0	Clear	
Deadwood, Dakota	25.34	643.6	.....	.....	58	14.4	64	Calm	0	0	.....	8k	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.84	732.5	29.96	761.0	75	23.9	77	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.22	742.2	29.98	761.5	74	23.3	81	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.84	630.9	30.06	763.5	61	16.1	40	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.14	740.1	30.00	762.0	61	16.1	100	S	5	2.2	.....	.....	10n	.....	SW	1.03	26.2	Heavy rain	
Detroit, Michigan	29.39	746.5	30.05	763.3	56	13.3	81	N	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.39	695.7	29.56	750.8	71	21.7	71	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.37	746.0	30.05	763.3	64	17.8	63	S	2	0.9	.....	5k	2s	W	Calm	0	0	Fair	
Duluth, Minnesota	29.29	744.0	29.94	760.5	63	17.2	80	NE	3	1.3	.....	5k	8s	W	N	0.12	3.0	Cloudy	
Eagle Pass, Texas	29.21	741.8	29.91	759.7	75	23.9	81	S	1	0.4	.....	2ck	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.90	759.4	29.97	761.2	55	12.8	84	NE	12	5.4	.....	5k	5s	N	NE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.26	667.5	.....	.....	66	18.9	49	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.29	744.0	29.98	761.5	63	17.2	78	NE	1	0.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Escanaba, Michigan	29.43	747.5	30.08	764.0	59	15.0	76	NE	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Florence, Arizona	28.32	719.3	29.92	760.0	77	25.0	25	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.92	709.2	29.75	755.6	46	7.8	68	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Custer	26.74	679.2	.....	.....	.....	.....	.....	NW	5	2.2	.....	2c	0	W	.....	0	0	Clear	
Fort Davis, Texas	25.33	643.4	30.29	769.4	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.48	748.8	30.00	762.0	76	24.4	64	E	6	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	73	22.8	35	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.72	729.5	29.94	760.5	72	22.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.31	693.7	.....	.....	57	13.9	57	N	5	2.2	.....	5k	Sm'e	NW	Calm	0	0	Fair	
Fort McKavett, Texas	27.77	705.4	29.61	752.1	73	22.8	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.86	758.4	74	23.3	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.14	714.7	.....	.....	47	8.3	55	SW	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	65	18.3	58	NW	.....	.....	1	1ck	0	Calm	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.16	715.3	29.62	752.3	84	28.9	64	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.94	760.5	29.98	761.5	82	27.8	87	S	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Graham, Texas	28.91	734.3	29.91	759.7	78	25.6	61	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.44	747.8	30.09	764.3	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.92	760.0	72	22.2	71	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.29	744.0	30.05	763.3	59	15.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.95	760.7	29.98	761.5	83	28.3	87	Calm	0	0	.....	1c	2ks	Calm	S	0	0	Fair	
Jacksboro, Texas	28.87	733.3	29.94	760.5	78	25.6	65	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.91	759.7	29.94	760.2	76	24.4	86	W	4	1.8	.....	2cs	8s	Calm	W	0.01	0.3	Cloudy	
Keokuk, Iowa	29.39	746.5	29.99	761.7	63	17.2	72	SE	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Key West, Florida	29.94	760.5	29.98	761.5	81	27.2	78	S	6	2.7	.....	8k	0	Calm	.....	0.51	13.0	Cloudy	
Kittyhawk, North Carolina	29.66	753.4	29.69	754.1	75	23.9	77	SW	19	8.5	.....	5cs	2s	SW	SW	0	0	Fair	
Knoxville, Tennessee	29.05	737.9	30.05	763.3	56	13.3	94	NE	1	0.4	.....	5cs	Fog	Calm	E	0.10	2.5	Fair	
La Crosse, Wisconsin	29.31	744.5	30.02	762.5	65	18.3	68	SE	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	57	13.9	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.85	758.2	83	28.3	53	E	1	0.4	.....	2k	0	Calm	.....	0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	71	21.7	62	S	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Little Rock, Arkansas	29.75	755.6	30.10	764.5	65	18.3	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.54	750.0	29.86	758.4	57.0	13.9	90	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.49	749.0	30.04	763.0	62	16.7	77	N	4	1.8	.....	2cs	Sm'e	Calm	Calm	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.18	741.1	29.84	757.7	68	20.0	74	N	4	1.8	.....	.....	10s	.....	W	1.69	42.9	Clearing	
Madison, Wisconsin	29.08	738.6	30.04	763.0	62	16.7	77	SE	3	1.3	.....	0	8s	.....	NW	0	0	Cloudy	
Marquette, Michigan	29.34	745.2	30.03	762.7	60	15.6	77	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.06	763.5	75	23.9	68	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.08	764.0	66	18.9	84	Calm	0	0	.....	5ck	Sm'e	NE	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.34	745.2	30.05	763.3	61	16.1	82	N	3	1.3	.....	5ck	Sm'e	NW	.....	0	0	Fair	
Mobile, Alabama	29.92	760.0	29.96	761.0	75.5	24.2	90	N	8	3.6	.....	0	1s	.....	W	Inap.	Inap.	Clear	
Montgomery, Alabama	29.57	751.1	30.00	762.0	70	21.1	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	CLOUDS. Amount. Up'er 0—10	Low'r 0—10.	Direction Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVE'R.
Morgantown, West Virginia	29.99	786.3	29.96	761.0	60	15.6	82	N	7	3.1	.....	5k	5s	N	N	0.80	20.3	Cloudy	
Mt. Washington, N. H.	23.83	605.3	30.19	766.8	43	6.1	100	E	16	7.2	.....	.....	Fog	.....	E	0.61	13.0	Foggy	
Nashville, Tennessee	29.52	749.6	30.05	763.3	62	16.7	88	Calm	0	0	.....	5cs	Haze	W	Calm	0	0	Fair	
New Haven, Connecticut	29.76	755.9	29.88	758.9	62	16.7	88	NE	10	4.5	.....	.....	10s	.....	NE	1.17	29.7	Cloudy	
New London, Connecticut	29.82	757.4	29.87	758.7	63	17.3	83	NE	9	4.0	.....	.....	9ks	.....	NE	1.50	38.1	Cloudy	
New Orleans, Louisiana	29.89	759.2	29.95	760.7	82	27.8	76	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Newport, Rhode Island	29.88	757.7	29.88	758.7	62	16.7	88	NE	8	3.6	.....	.....	10s	.....	NE	0.96	24.4	Cloudy	
New York, New York	29.67	753.6	29.85	758.2	62	16.7	83	NE	14	6.3	.....	.....	10ks	.....	NE	0.81	20.6	Cloudy	
Norfolk, Virginia	29.68	753.9	29.74	755.4	66	18.9	95	NW	10	4.5	.....	.....	10n	.....	NW	0.18	4.6	Light rain	
North Platte, Nebraska	27.03	686.6	29.52	749.8	60	15.6	88	E	8	3.6	.....	5cs	Haze	Calm	Calm	0	0	Fair	
Olympia, Washington Ter.	29.73	755.1	29.77	756.1	56.0	13.3	97	W	4	1.8	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Omaha, Nebraska	28.76	730.5	29.80	756.9	71	21.7	71	S	5	2.2	.....	0	0	.....	.....	0.19	4.8	Clear	
Oswego, New York	29.65	753.1	29.96	761.0	61	16.1	82	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.99	736.3	29.61	757.2	49	9.4	93	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.75	755.6	29.80	756.9	62	16.7	88	NE	19	8.5	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Phœnix, Arizona	28.62	726.9	30.33	770.4	77	25.0	35	E	1	0.4	.....	0	5ks	.....	S	0	0	Fair	
Pike's Peak, Colorado	18.11	460.0	30.32	770 1	40	4.4	31	W	24	10.7	.....	0	Haze	.....	.....	0	0	Hazy	
Pilot Point, Texas	29.12	739.6	29.89	759.2	87	30.6	65	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.07	611.4	29.84	757.9	61	16.1	40	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.18	741.1	29.98	761.5	56	13.3	81	N	5	2.2	.....	5ck	0	NE	.....	1.31	33.3	Fair	
Port Huron, Michigan	29.38	746.2	30.04	763.0	58	14.4	82	NW	6	2.7	.....	.....	10ks	.....	NW	0	0	Cloudy	
Portland, Maine	29.99	761.4	29.95	760.7	60	15.6	88	E	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Portland, Oregon	29.76	755.9	29.84	757.9	58.0	14.4	64	SE	7	3.1	.....	0	8s	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.63	625.7	30.19	766.8	58	14.4	64	W	.....	.....	1	2ck	0	SW	.....	0	0	Fair	
Punta Rassa, Florida	29.94	760.5	29.99	761.0	82	27.8	83	Calm	0	0	.....	5cs	5ks	Calm	SE	0	0	Cloudy	
Red Bluff, California	29.46	748.3	29.80	756.9	67	19.4	50	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.76	755.9	29.97	761.2	81	27.2	67	E	3	1.3	.....	2c	2s	Calm	Calm	0.39	9.9	Fair	
Rochester, New York	29.87	746.0	29.97	761.2	62	16.7	83	NE	4	1.8	.....	8k	0	NE	.....	0	0	Cloudy	
Roseburg, Oregon	29.84	745.2	29.90	759.4	49	9.4	96	Calm	0	0	.....	2k	0	SW	.....	0	0	Clear	
Sacramento, California	29.74	755.4	29.82	757.4	57	13.9	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.50	749.3	30.07	763.6	64	17.8	78	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.94	760.5	29.96	761.0	77	25.0	95	Calm	0	0	.....	2cs	2s	Calm	Calm	2.16	54.9	Fair	
St. Paul, Minnesota	29.69	738.9	29.89	759 2	65	18.3	73	SE	10	4.5	.....	.....	10ks	.....	SW	0.03	0.8	Cloudy	
Salt Lake City, Utah	25.57	649.5	29.90	759.4	70	21.1	21	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.33	745.0	29.88	758.9	79	26.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.80	756.9	29.87	758.7	65	18.3	89	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.87	746.0	30.02	762.5	63	17.2	78	N	14	6.3	.....	0	5ks	.....	N	0	0	Fair	
Sandy Hook, New Jersey	29.80	756.9	29 88	757.7	64	17.8	89	NE	32	14.3	.....	.....	10s	.....	E	0.96	24.4	Cloudy	
San Francisco, California	29.82	757.4	29.88	758.9	57	13.9	87	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.45	595.6	29.99	761.7	61	16.1	36	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.85	758.2	29.94	760.5	74	23.3	63	NW	6	2.7	.....	0	0	.....	.....	0.32	8.1	Clear	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	73	22.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.64	757.9	29.87	758 7	71	21.7	66	W	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.50	647.7	29.66	760.8	66	18.9	32	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Ill	29.42	747.3	30.08	764.0	61	16.1	71	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	62	16.7	88	N	3	1.3	.....	.....	10s	.....	NE	0.32	8.1	Threatening	
Stockton, Texas	26.93	684.0	29.93	760.2	64	17.8	32	SE	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Thatcher's Island, Mass	29.93	760.2	29.98	761.5	58	14.4	94	NE	25	11.2	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Toledo, Ohio	29.37	746.0	30.04	763.0	58	14.4	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.41	697.0	30.00	762.0	79	26.1	39	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.40	746.7	29.88	758.9	54.0	12.2	49	SE	10	4.5	.....	0	2ks	.....	W	0	0	Fair	
Uvalde, Texas	29.06	738.1	29.85	758.2	76	24.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.78	756.4	30.03	762.7	71	21.7	66	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.23	615.4	29.71	754.6	53	11.7	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.46	748.3	29.82	757.4	62	16.7	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.72	754.9	29.83	757.7	61	16.1	88	N	13	5.8	.....	.....	10n	.....	.....	1.19	30.2	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.75	755.6	29.82	757.4	72	22.2	62	W	10	4.5	.....	2cs	0	Calm	.....	0.10	2.5	Fair	
Winnemucca, Nevada	25.66	649.2	29.92	760.0	51	10.6	84	SW	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Wood's Holl, Mass	29.84	757.9	29.87	758.7	60	15.6	94	NE	12	5.4	.....	.....	10ks	.....	NE	0.67	17.0	Cloudy	
Yankton, Dakota	28.63	727.2	29.87	758.7	64	17.8	94	SE	3	1.3	.....	.....	Fog	.....	Calm	0.07	1.8	Dense fog	
Yuma, Arizona	29.61	752.1	29.76	755.9	80	26.7	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.92	760.0	29.97	761.2	80	26.7	82	Calm	0	0	.....	8ck	0	Calm	.....	0.05	1.3	Fair	J. B. Gordon.
Kingston, Jamaica, W. I	30.25	768.3	30.26	768.6	77	25.0	79	N	2	0.9	.....	.....	5s	SE	.....	0	0	Fair	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.27	641.8	.....	.....	65.1	18.4	82	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.52	13.2	Fair	James Gall.
Navassa, W. I	29.90	759.4	29.98	761.5	82	27.8	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Slightly cl'dy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	82	SE	.....	.....	2	8c	5k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I	29.86	761.0	29.99	761.7	80	26.7	82	Calm	0	0	.....	2c	.....	.....	.....	Blank	Blank	.....	C. J. Hering.
St. Thomas, W. I.	29.63	752.6	29.64	752.6	83	28.3	75	E	4	1.8	.....	2c	2ks	NE	.....	0	0	Clear	Robert Mason.
York Factory, B. A.	29.96	761.0	30.01	762.2	40.0	4.4	96	NW	7	3.1	.....	2k	2s	W	W	0	0	Fair	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?); Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,898 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.850 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.97 in., or 66.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Characters.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.10‡	764.5‡	.....	.....	80	26.7	91	NW	6	2.7	.....	.....	5	.....	SW	0.08	2.0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital. Yokohama, Japan	29.77‡	756.1‡	.....	.....	77	25.0	84	SW	.....	.....	1	.....	2ck	.....	N	0	0	.....	.....	Fair	
Adams. Mare I'd, Navy Yard, Cal.	29.87‡	758.7‡	.....	.....	68	14.4	94	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Alaska, Pichilinque Harbor, Mexico*	29.78‡	756.4‡	.....	.....	79	26.1	82	SSE	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Blue sky	
Alliance, Spit Head, Eng.	29.76‡	755.9‡	.....	.....	61	16.1	77	W	.....	.....	5–6	.....	6	.....	W	.....	.....	.....	.....	Squally	
Ashuelot, Yokohama, Japan	30.00‡	762.0‡	.....	.....	79	26.1	91	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado. New York, N. Y.	29.82‡	757.4‡	.....	.....	63	17.2	89	NE	3	1.3	.....	.....	1	.....	NNE	0.94	23.9	.....	.....	Misty	
Constellation, N. 39° 17', W 73° 09'	29.74‡	755.4‡	.....	.....	64.7	18.2	94	ENE	.....	.....	6	.....	10	.....	.....	Pass'ng shw'rs	Pass'ng shw'rs	Long	NNE	Drizzling	
Constitution, Navy Yard, Brooklyn, N.Y.	29.87‡	758.7‡	.....	.....	67	19.4	79	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Drizzling	
Enterprise, Cowes, England	29.75‡	755.6‡	.....	.....	62	16.7	72	NNW	.....	.....	8	.....	6	.....	W	.....	.....	Mod'ate	.....	Cloudy	
Essex, Rio de Janeiro, Brazil	30.22‡	767.6‡	.....	.....	71	21.7	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Franklin. Norfolk, Va.	29.75‡	755.6‡	.....	.....	68	20.0	90	NW	.....	.....	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Hartford Rio de Janeiro, Brazil	30.12‡	765.0‡	.....	.....	72	22.2	85	Calm	.....	.....	0	.....	10	.....	SW	0.05	1.3	.....	.....	Hazy	
Independence, Mare I'd. Navy Yard, Cal.	29.84‡	757.9‡	.....	.....	61	16.1	82	SW	4.8	2.1	.....	.....	8	.....	SW	.....	.....	.....	.....	Clear	
Kearsarge, St. Johns, New Foundland.	29.89‡	759.2‡	.....	.....	49	9.4	85	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Lackawana, Apia, Samoa Is. †	29.88‡	758.9‡	.....	.....	77	25.0	86	SE	.....	.....	1	.....	8	.....	SE	.....	.....	Smooth	.....	Raining	
Michigan. Milwaukee, Wis.	30.01‡	762.2‡	.....	.....	62	16.7	86	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Monocacy. Cheefoo, China	29.64‡	752.8‡	.....	.....	78	25.6	86	SSW	.....	.....	1	.....	8	.....	SSW	.....	.....	.....	.....	Cloudy	
Monongahela, Hakodadi, Japan	30.00‡	762.0‡	.....	.....	72	22.2	62	Calm	.....	.....	0	.....	ck	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	29.91‡	759.7‡	.....	.....	76	24.4	82	NNW	10	4.5	.....	.....	2	.....	NNW	0.8	20.	.....	.....	Fine	
Onward, Callao, Peru †	30.01‡	762.2‡	.....	.....	62	16.7	88	E	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos Chefoo, China	29.69‡	754.1‡	.....	.....	76	24.4	100	ESE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	29.83‡	757.7‡	.....	.....	63	17.2	89	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Iquique, Peru	30.09‡	764.3‡	.....	.....	61	16.1	71	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. S.W. Harbor, Mt. Desert, Me.	29.99‡	761.7‡	.....	.....	58	14.4	70	ENE	.....	.....	4	.....	5	.....	N;E	0	0	Mod'ate	NE	Squally	
Powhatan, Navy Yard, Brooklyn, N. Y.	29.83‡	757.7‡	.....	.....	63	17.2	89	NE	.....	.....	4	.....	10	.....	Calm	1.00	25.4	.....	.....	Cloudy	
Quinnebaug, Venice, Italy	29.91‡	759.7‡	.....	.....	81	27.2	70	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Ranger, Yokohama, Japan. §	29.90‡	759.4‡	.....	.....	81	27.2	91	SE	.....	.....	1–2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Yokohama, Japan	30.00‡	762.0‡	.....	.....	80	26.7	87	SW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡	.....	.....	79	26.1	100	NNE	.....	.....	1	.....	2	.....	NNE	0.16	4.1	.....	.....	Fair	
Santee, Annapolis, Md.	29.81‡	757.2‡	.....	.....	62	16.7	100	N	.....	.....	3	.....	10	.....	N	2.05	52.1	.....	.....	Raining	
Saratoga, New London, Conn.	29.76‡	755.9‡	.....	.....	63	17.2	94	NE	.....	.....	3	.....	8	.....	NE	Heavy	Heavy	.....	.....	Squally	
St. Louis, League Island, Pa	29.82‡	757.4‡	.....	.....	64	17.8	94	NE	20	8.9	.....	.....	10	.....	NE	0.08	2.0	.....	.....	Cloudy	
Trenton, Gravesend, Eng.	29.66‡	763.4‡	.....	.....	64	17.8	94	W	.....	.....	4	.....	10	.....	S;W	0	0	Smooth	.....	Squally	
Tuscarora, Mare Isl. Navy Yard, Cal	29.86‡	758.9‡	.....	.....	60	15.6	82	SSW	.....	.....	2	.....	8	.....	Calm	0	0	Smooth	.....	D. clouds	
Vandalia, Navy Yard, Pensacola, Fla.	29.86‡	758.9‡	.....	.....	76	24.4	??	N	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.	29.86‡	758.9‡	.....	.....	60	15.6	88	NE	7	3.1	.....	.....	10	.....	.....	0.35	8.9	.....	.....	Rainy	
Wachusett, Portsmouth, N. H.	29.95‡	760.7‡	.....	.....	60	15.6	88	ENE	.....	.....	2	.....	5	.....	NE	.....	.....	Light	.....	Cloudy	
Wyoming, Constantinople, Turkey	29.97‡	761.2‡	.....	.....	74	23.3	63	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity ‡Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—		Character.	Direction from—		
S.S. Samaria																		Capt. T. Roberts.	

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, Panama Bay, Panama.†		30.00‡	762.0‡	78	25.6	91	ENE			1		3		SE	0.19 in. 4.8 mm	Small	ENE	Showery	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.10‡	766.5‡				W			2		10		W				Raining	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China.....†		29.63‡	752.6‡	83	28.3	91	N			3		10n			Light			Showery.....	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson. N. 37° 51′, W. 135° 22′..†		30.20‡	767.1‡	64	17.8		NNW			5		ck		NW	0	Mod'ate	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf N, 38° 12,′ W. 123° 26′.....		29.93‡	760 2‡	60	15.6	94	Var.			1-2		10		WNW		Smooth		Misty.....	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeifer, N. 44° 17′, W. 56° 57′		29.78‡	756.4‡	64.0	17.8	??	E			1					4 h'rs	Smooth	SW	Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany.		29.62‡	749.6‡				SW			6		8		W				Cloudy.....	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 02', W. 43° 08'		29.71‡	752.1‡	56	13.3	81	NW			8		5		NW	Heavy	Light	NNE	Cloudy†	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Off Woods Holl, Mass.		29.63‡	757.7‡	66	18.9	84	NE	13	5.8			10d		NE	1.31 in. or 33.3mm			Overcast	Capt. James Jorgenson.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax"																			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 24° 38', W. 37° 40'		30.08‡	764.0‡	80	26.7	80	Calm			0		1				3	NE;SE	Blue sky	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.04	763.0	69.3	20.7	88	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.02	762.5	82.4	28.0	79	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.00	761.9	80.2	26.8	71	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourlliere.
La Calle	.....	.....	30.07	763.6	82.6	28.1	61	NNE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.15	765.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.99	761.7	88.3	31.3	17	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.10	764.6	90.1	32.3	31	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	75.0	23.9	41	SW	.....	.....	3	.....	5	.....	.....	0.039	1.0	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.03	762.7	96.4	35.8	23	SW	.....	.....	2	.....	5	.....	.....	0.433	11.0	Cloudy	Bertrand.
Biskra	.....	.....	30.04	762.9	103.3	39.6	27	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,923? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.48	748.9	30.02	762.4	72.7	22.6	64	NE	.....	.....	2	.....	6	.....	.....	0.043	1.1	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.19	741.5	29.94	760.5	66.9	19.4	56	WNW	10.5	4.7	.....	.....	8	.....	.....	0.528	13.4	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.95	735.2	29.82	757.5	61.6	11.0	87	Calm	.....	.....	0	.....	7s	.....	S	0.165	4.20	.....	Julius Mikolik.
Gratz	28.84	732.4	30.04	763.1	70.2	21.2	56	NW	.....	.....	2	.....	0	.....	.....	0.177	4.5	.....	Andreas Rospini.
Hermannstadt	28.48	723.5	29.84	757.9	78 1	25.6	68	E	.....	.....	3	.....	10	.....	.....	0.193	4.9	Thunder-storm.	Prof. A. Gottschling.
Kremsmünster	28.68	728.4	29.98	761.4	67.5	19.7	75	N	.....	.....	2	.....	2	.....	.....	0.598	15.2	.....	Prof. C. Wagner.
Lemberg	28.89	733.7	29.86	758.4	59.7	15.4	89	SW	.....	.....	1	.....	10	.....	.....	0.059	1.5	.....	Dr. T. Stanecki.
Pola	29.86	758.4	29.97	761.2	81.3	27.4	37	ESE	.....	.....	3	.....	2	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.48	748.7	29.93	760.1	64.9	18.3	80	NW	.....	.....	6	.....	10	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.70	754.4	29.97	761.3	70.9	21.6	61	W	.....	.....	3	.....	5	.....	.....	0.094	2.40	.....	Karl Stancel.
Trieste	29.87	758.7	29.97	761.3	79.2	26.2	54	ENE	.....	.....	2	.....	4	.....	.....	0	0	.....	P. Busin.
Vienna	29.32	744.6	30.05	763.3	69.8	21.0	49	W	.....	.....	3	.....	1	.....	.....	0.465	11.8	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:46 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.19	741.4	29.29	744.0	52.6	11.4	.....	SSE	13	5.8	.....	.....	10	.....	.....	0.270	6.86	Raining.....	W. Boswell.
Ardrossan	29.08	738.6	29.10	739.1	57	13.9	.....	S	.....	.....	4	.....	8	.....	.....	.....	.....	Raining.....	Wm McNeil &G.Carrick
Armagh, Observatory	28.90	734.0	29.12	739.6	62.1	16.7	.....	SW	14	6.3	.....	.....	7	.....	.....	.....	.....	Squally.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.26	743.7	56.8	13.8	.....	SE	23	10.3	.....	.....	10	.....	.....	.....	.....	Raining.....	John Hartnup.
Bolton (Sharples)	.....	.....	29.28	743.7	55.3	12.9	.....	S	30	13.4	.....	.....	10	.....	.....	.....	.....	Raining.....	Thomas Mackereth.
Bradford, Yorkshire	28.94	735.1	29.34	745.2	55.1	12.8	.....	SW	.....	.....	4	.....	10	.....	.....	0.11	2.8	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	84	28.9	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.41	747.0	29.50	749.3	61.5	16.4	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.47	748.5	61.6	16.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	John McLaren.
Chatham, School M. E.	29.48	748 8	29.61	752.1	59.4	15.2	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper. R. E.
Donaghadee	29.10	739.1	29.14	740.1	62	16.7	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.63	752.6	29.65	753.1	60	15.6	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.26	743.7	29.50	749.3	61.4	16.3	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	80	26.7	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	Drizzling.....	
Galway, Queen's College	.....	.....	29.14	740.1	60.5	15.8	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	82.3	27.9	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	28.94	735.1	29.15	740.4	53.8	12.1	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean.
Great Yarmouth	29.57	751.1	29.57	751.1	59	15.0	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.42	747.3	29.58	751.3	59.6	15.3	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G.B.Airy.
Guernsey	29.46	748.3	29.68	753.9	66	18.9	.....	SSW	.....	.....	5	.....	8	.....	.....	Blank	Blank	D. clouds...	Dr. S.E.Hoskins,F.R.S.
Helston	29.51	749.5	29.62	752.3	62	16.7	.....	S	.....	.....	7	.....	10n	.....	.....	0.35	8.9	Heavy rain..	M. P. Moyle.
Holyhead	29.22	742.2	29.24	742.7	59	15.0	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	John Tilston.
Jersey	29.45	748.0	29.74	755.4	64.9	18.3	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast....	J. Fisher.
Kew, Observatory	29.54	750.3	29.58	751.3	60.5	15.8	.....	SSW	27	12.1	.....	.....	10	.....	.....	.....	.....	Raining.....	The Met'g'l Office.
Leicester, Museum	29.17	740.9	29.42	747.3	60.0	15.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.90	759.4	29.98	761.5	83.0	28.3	.....	NE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky....	A. King.
Nairn	29.11	739.4	29.20	741.7	54	12.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.92	760.0	85.2	29.6	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.32	744.7	29.50	749.3	60.2	15.7	.....	SSE	.....	.....	2	.....	10n	.....	SSE	0.814	20.67	Raining....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.88	733.5	29.39	746.6	58.3	14.6	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.48	748.8	60	15.6	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.46	748.8	29.54	750.3	61.2	16.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.20	741.7	29.32	744.7	63	17.2	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining....	Wm. Kennedy.
Saint Ann's Head	29.16	740.7	29.32	744.7	60	15.6	.....	SW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.26	743.2	54.4	12.4	.....	SE	26	11.6	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.80	756.9	29.86	758.4	67.6	30.9	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	Serg't.W. H.Lyne.
Sheffield	29.13	739.9	29.40	746.7	58.1	14.5	.....	SW	.....	.....	2	.....	10	.....	.....	0.61	15.5	Raining.....	W. F. Cooper.
Silloth Rectory	29.16	740.7	29.19	741.4	56.5	13.6	90	W	.....	.....	6	.....	10	.....	.....	0.436	11.07	Raining.....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.29	744.0	55.9	13.2	.....	SSW	24	10.7	.....	.....	10	.....	.....	.....	.....	Raining....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	60.3	15.7	.....	S	.....	.....	4-5	.....	10	.....	.....	.....	.....	Raining.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.54	750.3	29.57	751.1	63	17.2	.....	SW	.....	.....	9	.....	10	.....	.....	.....	.....	Raining....	W. Newcombe.
Valencia, Observatory	29.24	742.7	29.27	743.4	60.7	15.9	.....	WSW	23	10.3	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.18	766.6	30.22	767.6	63.9	17.7	.....	S	18.0	8.0	.....	0	2	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.21	741.9	54.0	12.2	.....	SE	.....	.....	2	.....	10n	.....	.....	0.21	5.3	Overcast....	Andrew Gibb.
Mauritius, Observatory	30.03	762.7	30.22	767.6	68.8	20.4	66	SSE	20.0	8.9	.....	0	4	.....	ESE	0.12	3.0	Squally	C. Meldrum.
Melbourne, Observatory	29.14	765.5	30.23	767 8	49.0	9.4	92	W	3	1.3	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.09	738.9	.....	.....	.....	SE	.....	.....	4	.....	10	.....	.....	0.10	2.5	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel. Height scale 0—9	Sea or swel. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 05′ E. 28° 15′	.....	.....	29.90‡	759.4‡	76	24.4	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. W. J. L. Wharton.
German Brig "W. von Freeden" N. 49° 40′, W. 5° 55′	.....	.....	29.47	748.5	62	16.7	.....	SW	.....	.....	7	.....	10	.....	.....	6	sw&nw	Rain & fog...	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	66.2	19.0	90	SE	.....	.....	1	3c;ck;s	.....	.....	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.57	751.0	29.61	752.2	61.5	16.4	68	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	Raining	
Fanöe	29.61	752.1	29.63	752.6	61.2	16.2	77	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.67	753.5	29.71	754.6	.....	.....	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.44	747.8	29.48	748.9	48.2	9.0	71	NE	.....	.....	7	.....	0?	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	29.37	745.9	29.40	746.8	46.4	8.0	79	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.47	748.6	29.58	751.4	60.1	15.6	81	SW	.....	.....	2	.....	4	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.37	746.1	29.93	760.1	67.6	19.8	74	SW	.....	.....	5	.....	10kn	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.78	756.3	29.88	759.0	64.4	18	70	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.56	750.9	29.81	757.2	64.4	18.0	71	SW	.....	.....	5	.....	.....	.....	SW	0.012	0.3	.....	Klein, Commandant.
Avignon, Normal School	29.93	760.3	30.01	762.3	82.4	28	27	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.44	747.8	29.98	761.6	67.6	19.8	56	SSW	.....	.....	1	.....	8kn	.....	W	0	0	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.60	751.8	29.86	758.4	66.6	19.2	60	SSW	.....	.....	3	.....	10	.....	WSW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.16	740.7	30.04	762.9	68.9	20.5	56	SW	.....	.....	2	.....	5	SW	.....	0.75	19.	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.3	30.11	764.9	72.5	22.5	54	SE	.....	.....	1	.....	10cn	S	SE	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.44	747.7	29.98	761.5	68.4	20.2	74	SW	.....	.....	1	.....	n	SSW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.47	748.6	29.72	754.8	64.8	18.2	90	SW	.....	.....	5	.....	10	.....	SW	0.020	0.50	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.58	751.4	29.98	761.4	83.5	28.6	39	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Dir.
Caen, Normal School	29.67	753.6	29.74	755.5	66.6	19.2	70	SW	.....	.....	5	.....	8	.....	W	0	0	Very cloudy	M. Bletrin, Director.
Chartres, Normal School	29.38	746.3	29.94	760.4	63.3	17.4	81	SW	.....	.....	3	.....	10	.....	S	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.69	754.0	30.00	761.9	63.5	17.5	67	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.66	728.0	29.95	760.8	77.0	25.0	47	W	.....	.....	1	.....	5	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.15	740.5	30.00	762.1	61.9	16.6	64	W	.....	.....	1	.....	6ckn	W	W	0.047	1.2	Cloudy	Dr. Coulet, Director
Commune de Gréasque*	28.95	735.4	30 10	764.4	84.2	29	19	W	.....	.....	2	.....	2	W	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.20	743.2	30.00	762.0	72.8	22.4	68	N	.....	.....	1	.....	k	.....	E	0.20	5.	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.84	757.9	30.05	763.2	71.1	21.7	67	S	.....	.....	3	.....	2	.....	SSW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.62	752.4	29.92	760.0	68.7	20.4	68	SSW	.....	.....	5	.....	5	.....	SW	0.335	8.50	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.11	739.4	30.00	762.1	68.4	20.2	62	SW	.....	.....	1	.....	1	SW	SW	0.59	15.	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.76	755.8	29.86	758.4	66.9	19.4	91	S	.....	.....	6	.....	.....	.....	S	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.44	747.7	30.03	762.7	76.6	24.8	52	ENE	.....	.....	1	c	.....	.....	W	0.059	1.5	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.72	755.0	29.98	761.6	81.1	27.3	47	WSW	.....	.....	1–2	.....	2	.....	W	.....	.....	.....	E. Stephan, Director
Mirecourt, Normal School	28.91	734.2	29.92	760.0	66.2	19	64	SSW	.....	.....	1	.....	5k	W	W	.....	.....	Cloudy	Barbier, Director
Mont-Louis	25.04	636.0	30.35	771.0	70.7	21.5	57	E	20.6	9.2	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nice	29.95	760.7	29.98	761.5	79.9	26.6	73	SE	.....	.....	3	.....	2	NW	SE	0	0	Slightly cov.	M. Boissiers, Director.
Nismes, Normal School	29.84	758.0	30.03	762.8	92.1	33.4	56	N	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.65	753.0	.....	.....	63.9	17.7	63	S	.....	.....	3	.....	10	.....	.....	Inap.	Inap.	Sprinkling	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.74	577.6	.....	.....	65.8	18.8	.....	W	.....	.....	2	.....	1	SSW	W	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.96	761.0	30.07	763.6	75.9	24.4	57	SE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.29	642.4	.....	.....	53.6	12.0	73	W	.....	.....	1	.....	5	.....	.....	0.567	14.9	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	79.1	26.1	54	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.72	754.9	29.81	757.1	66.7	19.3	65	S	.....	.....	2	.....	8	.....	W	0.012	0.3	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.72	754.9	29.75	755.7	67.8	19.9	68	SSW	.....	.....	6	.....	8	SW	SW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.70	755.8	29.93	760.1	65.6	18.6	69	SSW	.....	.....	3	.....	10	WNW	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.09	738.8	30.13	765.4	73.4	23	74	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.33	744.9	30.05	763.3	83.8	28.8	48	SSE	.....	.....	1	.....	2	.....	.....	0	0	.....	M. Juller Mercadier.
Tours	29.77	756.2	29.97	761.2	74.7	23.7	50	SW	.....	.....	2	.....	8	.....	SW	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.42	747.2	29.91	759.7	64.8	18.2	63	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Light rain	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.34	745.2	30.02	762.6	75.2	24	56	ESE	.....	.....	1	.....	2	.....	SW	0.08	2.	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.73	755.2	29.76	755.9	79.5	26.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.77	45.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.82	757.4	29.84	758.0	79.5	26.4	92	ENE	10.3	4.6	.....	ck	9k	WSW	E	0.933	23.7	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,588.40 m., or 5,294.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.2	29.98	761.6	66.6	19.2	59	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.69	754.1	29.85	758.3	66.7	19.3	63	S	.....	.....	4	.....	8	.....	.....	0.102	2.6	.....	Prof. Dr. Arndt.
Breslau	29.41	746.9	29.93	760.3	65.5	18.6	56	W	.....	.....	2	.....	4	.....	.....	0.315	7.99	.....	Royal University Ob's'y.
Carlsruhe	29.57	751.0	29.98	761.6	67.6	19.8	67	SW	.....	.....	2	.....	10	SW	.....	0	0	.....	Albert Sens.
Cassel	29.35	745.4	29.95	760.8	67.6	19.8	48	SW	.....	.....	2	.....	7	SW	.....	0.045	1.13	.....	Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	67.6	19.8	56	SW	.....	.....	6	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	29.75	755.6	59.9	15.5	76	SW	.....	.....	5	.....	10	.....	.....	0.496	12.6	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.60	751.7	29.96	760.9	70.0	21.1	.....	W	.....	.....	3	.....	8	.....	.....	0	0	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.61	726.8	30.01	762.3	66.6	19.2	64	SW	.....	.....	3	.....	5	W	.....	0.193	4.9	.....	M. Wilhelm.
Hamburg	29.69	754.2	29.76	756.0	60.8	16.0	93	WSW	.....	.....	6	.....	8kn	.....	.....	0.142	3.6	Rainy	Captain F. Hegemann.
Kiel	29.69	754.1	29.71	754.5	62.2	16.8	82	SW	.....	.....	6	.....	10	.....	.....	0.347	8.83	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.65	753.1	29.73	755.1	62.8	17.1	68	W	.....	.....	7	.....	2	.....	.....	0.228	5.8	.....	Prof. E. Luther.
Köslin	..	...	.....	29.70	754.4	62.6	17.0	.....	W	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.50	749.3	29.91	759.7	67.5	19.7	60	WSW	.....	.....	5	.....	8	W	.....	0.220	5.6	.....	Prof. Bruhns, Privy Counselor.
Memel	29.59	751.6	29.64	752.8	62.6	17.0	73	W	.....	.....	7	.....	9n	.....	.....	.....	.....	.....	Skalweit.
Munich (München)	28.22	716.8	30.09	764.2	69.3	20.7	41	W	.....	.....	4	.....	8	.....	.....	0.020	0.5	Rainy	Dr. C. Lang.
Neufahrwasser	29.72	754.8	29.73	755.2	63.0	17.2	64	W	.....	.....	3	.....	9	.....	.....	0.764	19.4	.....	A. Lothes.
Posen	29.54	750.3	29.82	757.4	67.1	19.5	61	W	.....	.....	3	.....	5	.....	.....	0.043	1.1	.....	Dr. Magener.
Strassburg (in Alsace)	29.48	748.9	30.02	762.5	68.5	20.3	65	S	.....	.....	3	.....	10	W	.....	0.346	8.78	.....	Imp. University Observatory.
Stuttgart	29.04	737.7	29.95	760.8	69.8	21.0	43	W	.....	.....	1	.....	6	W	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.53	724 6	30.00	762.0	64.4	18.0	53	W	2	1	.....	....	6ck	W	W	0.220	5.6	.....	T. Hopfner.
Wustrow	29.68	753.9	29.71	754.5	60.6	15.9	76	SW	.....	.....	5	.....	7s	.....	.....	0.173	4.4	.....	E. Schütz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.8ft.; Weissenburg, 481 m., or 1.414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.7	29.93	760.2	68.3	31.3	.....	SW	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.56	750.8	29.61	752.1	82.7	28.2	61	W	13.0	5.8	.....	.....	10	.....	W	.....	.....	Thunder-storm	
Deesa	29.19	741.5	29.67	753.5	78.3	25.7	93	SSE	4.9	2.2	.....	.....	10	.....	.....	3.38	85.8	Drizzling	
Bombay	29.69	754.2	29.73	755 2	80.9	27.2	87	SSW	15.0	6.7	.....	.....	7	.....	SW	0.26	6.6	D clouds	
Poona	27.89	708.5	29.75	755.7	75.6	24.2	80	WSW	12.0	5.4	.....	.....	8	.....	W	0.02	0.5	D. clouds	
Lahore	28.86	732 9	29.58	751.3	91.1	32.8	58	E	3.0	1.3	.....	.....	3	.....	.....	0	0	Blue sky	
Belgaum	27.24	692.0	29.80	756 9	70.8	21.6	93	W	7.0	3.1	.....	.....	9	W	.....	0.16	4.1	Showery	
Roorkee	28.71	729.3	29.59	751 6	86.8	30.4	78	Calm	2.8	1.2	.....	.....	8	.....	.....	0	0	D. clouds	
Agra	29.03	737.3	29.58	751.4	87.7	30.9	78	E	5.2	2.3	.....	.....	8	.....	E	0	0	.....	
Nagpur	28.62	726.9	29.65	753.1	82.2	27.9	76	WSW	4.2	1.9	.....	.....	4	.....	NE	0	0	D. clouds	
Lucknow	29.22	742.0	29.58	751.4	90.2	32.3	66	ENE	2.8	1.2	.....	.....	6	NNW	.....	0	0	D. clouds	
Allahabad	29.30	744.3	29.61	752.2	83.1	28.4	87	SSE	1.7	0.8	.....	.....	10	.....	.....	0.15	3.8	Overcast	
Patna	29.43	747.5	29.61	751.9	87.5	31.0	77	E	0.9	0.4	.....	.....	6	E	E	0	0	D. clouds	
Hazaribagh	27.63	701.8	29.61	752.2	81.8	27.7	78	ESE	8.3	3.7	.....	.....	4	.....	.....	0	0	.....	
Cuttack	29.54	750.4	29.63	752.5	83.8	28.8	83	SSE	2.0	0.9	.....	.....	7	.....	.....	0.46	11.7	Drizzling	
Calcutta (Alipore)	29.61	752.0	29.63	752.6	84.7	29.3	83	S	4.0	1.8	.....	.....	3	SSE	.....	0.02	0.5	D. clouds	
Goalpara	29.23	742.5	29.61	752.2	84.6	29.2	77	Calm	2.9	1.3	.....	.....	0	.....	.....	0.33	8.4	Blue sky	
Chittagong	29.58	751.4	29.67	753.6	83.2	28.4	88	Calm	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	
Sibsagar	29.30	744.8	29.64	752.7	86.0	30.0	79	W	2.2	1.0	.....	.....	6	.....	.....	0	0	D. clouds	
Jubbulpore	28.28	718.2	29.63	752.5	82.4	28.0	85	S	3.5	1.6	.....	.....	8	.....	SW	0	0	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrum'tal error and temperature. Inches.	BAROMETER. Corrected or instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.60	751.7	29.99	761.7	77.0	25.0	46	SE	3.8	1.7	.....	.....	5	.....	.....	0.213	5.4	.....	Prof. Giovanni Clodig.
Milan	29.45	748.1	29.95	760.7	81.1	27.3	50	E	.....	.....	2	.....	6	WSW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.86	758.5	29.97	761.2	78.8	25.7	57	NE	6.9	3.1	.....	.....	4	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.1	29.97	761.2	73.8	23.2	71	SW	3.8	1.7	.....	.....	3	N	.....	0.374	9.5	.....	Prof. P. F. Denza.
Genoa	29.80	756.8	29.98	761.5	77.0	25.0	69	SE	10.5	4.7	.....	.....	6	SE	.....	0.031	0.8	.....	Prof. G. M. Garibaldi.
Mondovi	28.10	713.7	29.93	760.1	75.2	24.0	52	ENE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.91	759.8	29.96	761.0	79.9	26.6	62	NE	12.0	5.8	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.3	29.98	761.5	85.1	29.5	46	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.7	29.99	761.7	83.7	28.7	51	SW	4.3	1.9	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.84	757.9	30.01	762.2	84.7	29.3	59	S	9.4	4.2	.....	.....	7	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.5	29.95	760.7	90.1	32.3	29	NNW	7.4	3.3	.....	.....	1	W	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.12	739.6	29.96	761.0	90.0	32.2	57	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.84	757.9	30.02	762.6	85.5	29.7	51	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	756.4	30.02	762.6	89.1	26.7	68	ENE	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.92	760.0	29.99	761.8	87.8	31.0	55	S	7.4	3.3	.....	.....	5	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.4	30.06	763.5	82.4	28.0	61	WSW	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.94	760.5	83.1	28.4	75	SW	6.1	2.7	.....	.....	10cs;ok	.....	.....	0.007	0.18	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.74	755.4	29.94	760.2	82.4	28.0	81	S	4.9	2.2	.....	.....	9n;s	.....	.....	0.325	8.26	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.96	761.0	30.02	762.6	77.1	25.1	82	SSW	6.8	2.8	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.91	759.7	29.96	761.0	81.3	27.4	75	SSW	4.5	2.0	.....	.....	1ks	.....	.....	0.150	3.81	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.03	635.8	30.00	762.1	60.8	16.0	77	SW	.....	.....	2	.....	7	.....	S	0.28	7.0	Cloudy	Prof. L. Perez.
Leon	24.40	619.7	30.01	762.2	63.9	17.7	86	NW	.....	.....	2	8c	8s	NW	.....	0.14	3.5	½ cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.5	30.02	762.4	56.3	13.5	85	NW	1.1	0.5	.....	.....	10pk	.....	.....	0.10	2.5	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	62.8	17.1	83	Calm	.....	.....	0	3c	2s	.....	.....	Inap.	Inap.	½ Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.88	758.9	29.89	759.2	76.3	24.6	96	SW	.....	.....	1	.....	10	.....	NW	2.57	63.7	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.18	614.1	30.10	764.4	61.0	16.1	79	E	.....	.....	1	5	2	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.53	572.2	30.06	763.5	57.7	14.3	88	E	.....	.....	2	8ck	0	SE	.....	0.16	4.0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.38	593.9	30.06	763.5	55.4	13.0	82	NW	0.4	0.2	.....	.....	10k	.....	NE	0.27	6.8	Covered	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	75.0	23.9	99	SE	.....	.....	1	1cs	9n	Calm	E	0.50	12.7	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,3[illegible].8 ft.; San Luis Potosi, 1,890.4 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.78	756.4	29.78	756.4	59.2	15.1	.....	S	.....	.....	5	.....	.....	.....	.....	0.433	11.0	.....	
Groningen	29.71	754.5	29.76	755.9	.....	.....	.....	SW	.....	.....	3	.....	.....	.....	.....	0.232	5.9	.....	
Helder	29.72	754.8	29.72	754.8	59.5	15.1	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.559	14.2	.....	
Hellevoetsluis	29.78	756.3	29.78	756.3	60.4	15.8	76	S	.....	.....	5	.....	.....	.....	.....	0.217	5.5	.....	
Utrecht	29.76	755.6	29.80	756.8	63.1	17.3	72	SSW	.....	.....	4	.....	8	.....	.....	0.295	7.5	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.43	747.4	29.48	748.8	63.0	17.2	68	S	9.8	4.4	.....	.....	2	.....	.....	0	0	.....	
Brönö	29.45	747.9	29.48	748.9	56.1	13.4	56	NNE	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.36	745.7	29.50	749.3	64.2	17.9	55	SW	7	3	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.35	745.6	29.40	746.7	49.8	9.9	91	Calm	0	0	.....	.....	10	.....	.....	0.165	4.2	Raining	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.90	759.5	30.09	764.2	75.6	24.2	82	W	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.03	737.4	29.99	761.7	91.0	32.8	21	WSW	3.1	1.4	.....	.....	3	WSW	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	30.04	763.0	30.13	765.2	76.5	24.7	67	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.71	755.4	30.08	764.1	80.6	27.0	41	NNE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.09	764.2	30.17	766.4	79.2	26.2	65	SW	13.7	6.1	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	.....	.....	29.97	761.1	70.3	21.3	.....	WNW	.....	.....	3	.....	5	.....	WNW	1	WNW	D. clouds	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Fogo, Cape Verd Islands	.....	.....	30.06	763.4	80.6	27.0	.....	SE	.....	.....	2	.....	2	.....	SE	2	.....	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.74	755.3	83.1	28.4	.....	SSE	.....	.....	3	.....	10	.....	SSE	1	.....	Overcast, 6 hr's rain-fall.	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.42	747.2	29.83	757.6	64.4	18.0	67	WSW	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.30	744.2	29.71	754.5	64.0	17.8	68	SW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.35	745.4	29.68	751.4	57.7	14.3	93.	NE	4	2	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.67	753.5	29.68	753.9	63.1	17.3	66	S	13	6	.....	.....	9n	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Kieff	29.16	740.6	29.75	755.7	81.3	27.4	33	S	13	6	.....	.....	5k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.87	758.6	29.94	760.4	83.3	28.5	40	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.92	759.9	29.94	760.4	77.0	25.0	74	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.37	745.9	29.88	759.0	73.4	23.0	55	S	7.8	3.5	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.71	754.7	29.91	759.7	81.0	27.2	44	ESE	13	6	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel*	29.61	752.2	29.63	752.7	61.0	16.1	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.53	724.6	29.86	758.4	85.1	29.5	36	ESE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.11	764.8	30.03	762.7	80.6	27.0	33	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisgranow.
Krotkowo*	29.46	748.3	29.91	759.8	73.4	23.0	68	SW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.72	754.8	29.98	761.4	71.4	21.9	44	WSW	2	1	.....	.....	2k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.96	735.6	29.90	759.4	63.1	17.3	64	W	18	8	.....	.....	9ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.75	755.7	29.97	761.3	83.7	28.7	28	NNE	13	6	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.34	719.8	29.83	757.6	79.5	26.4	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.25	743.0	29.73	755.2	63.9	17.7	80	SSW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.54	750.4	29.82	757.5	56.5	13.6	79	ESE	7	3	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.67	753.6	29.81	757.2	76.6	24.8	65	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.65	753.1	29.75	755.6	68.9	20.5	94	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.93	760.2	30.03	762.8	83.1	28.4	58	SW	3.2	1.44	.....	2c	.....	.....	.....	0	0	Hazy.	Antonio Rave, Director
Bilbao, Met. Obs'y	29.97	761.3	30.03	762.7	84.2	29.0	59	NW	2.2	0.96	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navern.
Burgos, Met. Obs'y	27.14	689.3	.....	.....	84.2	29.0	39	NW	4.4	1.99	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.6	29.92	759.9	95.7	35.4	20	SW	17.9	8.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.89	759.2	30.03	762.8	91.4	33.0	52	NE	3.8	1.72	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.14	740.1	30.01	762.2	71.4	21.9	75	SW	11.9	5.3	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.82	757.4	29.88	759 0	80.8	27.1	84	SE	1.1	0.5	.....	10cs;pc	0	SW	.....	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.77	756.1	29.82	757.4	79.0	26.1	94	SW	22.4	10.0	.....	.....	10	.....	W	1.547	49.3	Raining	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	762.9	83.1	28.4	60	WSW	7.5	3.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.6	29.96	760.9	81.0	27.2	78	SE	0	0	.....	2s	2k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f, Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.48	748.7	29.52	749.7	59.7	15.4	.....	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.41	746.9	29.46	748.2	63.7	17.6	68	S	.....	.....	3	.....	6	.....	.....	0.008	0.2	.....	
Hernosand	29.39	746.5	29.44	747.8	62.2	16.8	90	SSW	.....	.....	2	.....	8	.....	.....	0.169	4.3	.....	
Stockholm	29.39	746.6	29.57	751.1	64.6	18.1	61	SSW	.....	.....	2	.....	7	.....	.....	0.110	2.8	.....	
Wisby	29.50	749.2	29.56	750.7	60.1	15.6	75	NNW	.....	.....	4	.....	7	.....	.....	0.110	2.8	.....	
Sub-Series.																			
Upsala	29.42	747.2	29.50	749.4	62.1	16.7	68	S	4.0	1.8	.....	.....	3	.....	.....	0.008	0.20	Raining?	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.5	30.02	762.4	72.9	22.7	51	S	.....	.....	2	.....	2	.....	.....	0.272	6.9	Clear	The Observatory.
Zurich	28.43	722.1	30.02	762.5	68.7	20.4	63	W	.....	.....	1	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −1.0 mm.; Thermometer, +2.0 Cent.; Relative Humidity, −6 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.3	78.1	25.6	56	N	11	5.0	.....	.....	2	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.6	66.9	30.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.67	753.6	29.78	756.5	84.6	29.2	62	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.07	763.8	30.13	765.3	68	11.7	96	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	G. A. Bain.
Charlottetown, P. E. Island	30.05	763.3	30.09	764.3	69	15.0	82	NE	7	3.1	.....	0	2s	.....	E	0.010	0.25	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	69.0	89	E	.....	.....	1	0	0	.....	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.95	760.7	30.12	765.0	63.5	11.9	90	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.08	764.0	30.10	764.5	53	11.7	83	NW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.03	764.0	30.14	765.5	60.0	10.0	93	NE	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.14	740.1	29.94	760.5	52	11.1	89	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.99	736.3	30.09	764.3	54	12.2	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.94	760.5	30.07	763.8	58	14.4	83	E	7	3.1	.....	0	2ks	.....	E	0.011	0.28	Fair	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.10	764.5	60.7	15.9	80	NW	.....	.....	1	3ck	0	NW	.....	0	0	Fine	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.75	755.6	30.08	764.0	61	16.1	81	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.85	758.2	30.05	763.3	59	15.0	82	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.40	746.7	30.08	764.0	57	13.9	90	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.07	763.8	62.7	17.1	77	Calm	.....	.....	0	5c	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.38	746.2	30.07	763.8	56	13.3	94	N	7	3.1	.....	5c	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.09	763.6	30.11	764.8	62.6	16.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.07	763.8	55	12.8	96	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.80	756.9	30.11	764.8	58	14.4	82	E	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.63	752.6	30.08	764.0	57	13.9	94	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	30.01	762.2	30.06	763.5	55	12.8	81	NE	.....	.....	1	5k	5ks	E	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.92	760.0	30.09	764.3	56	13.3	87	NE	8	3.6	.....	8k	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.38	746.2	30.08	764.0	63	17.2	87	E	6	2.7	.....	2k	0	S	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.09	764.3	54.1	12.3	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.06	763.5	30.10	764.5	60	15.6	71	E	4	1.8	.....	5k	0	E	.....	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.09	764.3	62	16.7	81	N	3	1.3	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.05	763.3	63.0	17.2	70	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Woodstock, Ontario	29.90	736.6	30.04	763.0	60.7	15.9	77	NW	1	0.4	.....	2k	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.90	759.4	30.15	765.8	54.0	12.2	67	NE	.....	.....	.....	5k	5s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.83	757.7	30.05	763.3	63	17.2	72	N	3	1.3	.....	2k	0	N	.....	0.04	1.0	Fair	
Alpena, Michigan	29.44	747.8	30.07	763.8	62	16.7	72	S	6	2.7	.....	.....	8s	.....	SW	0	0	Cloudy	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	49	9.4	100	W	5	2.2	.....	.....	10a	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.83	732.3	29.96	761.0	61	16.1	70	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.96	761.0	29.97	761.2	60	15.6	88	N	12	5.4	.....	.....	10s	.....	N	0.42	10.7	Cloudy	
Augusta, Georgia	29.82	757.4	30.02	762.5	68	20.0	79	NE	1	0.4	.....	2ck	2s	NW	NW	0	0	Fair	
Baltimore, Maryland	30.00	762.0	30.05	763.3	62	16.7	77	NE	4	1.8	.....	2k	Haze	NE	Calm	0.01	0.3	Fair	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	62	16.7	83	N	28	12.5	.....	.....	10s	.....	NE	0.25	6.3	Cloudy	
Bismarck, Dakota	28.11	714.0	29.97	761.2	57	13.9	100	NE	5	2.2	.....	2cs	Haze	NW	.....	0	0	Fair	
Boerne, Texas	28.50	723.9	29.77	756.1	70	21.1	75	Calm	0	0	.....	5k	0	E	.....	0	0	Fair	
Boise City, Idaho	26.86	682.2	29.82	757.4	56	13.3	51	SE	1	0.4	.....	8k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.87	758.7	30.02	762.5	60	15.6	82	NE	14	6.3	.....	.....	10s	.....	E	0.02	0.5	Cloudy	
Brackettville, Texas	28.80	731.5	29.80	756.9	72	22.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.88	758.9	58	14.4	94	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Brownsville, Texas	29.81	757.2	29.85	758.2	76	24.4	95	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.37	746.0	30.05	763.3	62	16.7	83	SW	2	0.9	.....	5cs	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	90	32.2	25	SW	.....	.....	1	0	8s	.....	E	0	0	Cloudy	
Burlington, Vermont	29.78	756.4	30.06	763.5	59	15.0	82	Calm	0	0	.....	2ck	2ks	NW	NE	0	0	Fair	
Cairo, Illinois	29.69	754.1	30.07	763.8	68	20.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.88	758.9	56	13.3	75	E	4	1.8	.....	0	5ks	.....	SE	0	0	Fair	
Cape Hatteras, N. Carolina	29.92	760.0	29.93	760.2	67	19.4	84	NE	20	8.9	.....	.....	10s	.....	NE	0.14	3.6	Cloudy	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	65	18.3	78	N	16	7.2	.....	.....	10s	.....	NE	0.75	19.1	Cloudy	
Cape Lookout, N. Carolina	29.91	759.7	29.93	760.2	68	20.0	84	NE	24	10.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape May, New Jersey	29.94	760.5	29.97	761.2	61	16.1	83	N	17	7.6	.....	.....	10ks	.....	N	0.96	24.4	Cloudy	
Castroville, Texas	29.16	740.7	29.82	757.4	78	25.6	82	Calm	0	0	.....	2ck	0	NE	.....	0	0	Fair	
Charleston, South Carolina	29.89	759.2	29.94	761.2	69	20.6	80	NE	12	5.4	.....	2k	0	NE	.....	0	0	Fair	
Charlotte, North Carolina	29.17	740.9	29.96	761.0	66	18.9	84	NE	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy	
Chattanooga, Tennessee	29.23	742.4	30.01	762.2	65	18.3	78	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	23.99	609.3	29.93	760.2	54	12.2	38	W	4	1.8	.....	Haze	Sm'e	.....	.....	0	0	Smoky	
Chicago, Illinois	29.37	746.0	30.04	763.0	66	18.9	64	S	7	3.1	.....	5k	0	NW	.....	0	0	Fair	
Cincinnati, Ohio	29.46	748.3	30.10	764.5	62	16.7	74	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.37	746.0	30.09	764.3	57	13.9	81	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.14	714.7	29.73	755.1	71	21.7	66	SW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Columbus, Ohio	29.25	742.9	30.08	764.0	59	15.0	70	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Concho, Texas	28.05	712.5	29.65	753.1	73	22.8	63	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.95	760.7	70	21.1	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.36	745.7	29.97	761.2	68	20.0	79	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.28	642.1	.....	.....	57	13.9	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.79	731.3	29.90	759.4	75	23.9	64	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.18	741.1	29.94	760.5	72	22.2	80	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.78	629.4	30.00	762.0	62	16.7	27	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.99	736.3	29.82	757.4	72	22.2	80	SE	3	1.3	.....	0	8s	.....	SW	0.17	4.3	Cloudy	
Detroit, Michigan	29.43	747.6	30.09	764.3	58	14.4	82	NE	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.28	692.9	29.43	747.5	73	22.8	46	SW	20	8.9	.....	5ck	0	S	.....	0	0	Fair	
Dubuque, Iowa	29.26	743.2	29.94	760.5	67	19.4	74	SE	6	2.7	.....	8k	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	29.27	743.4	29.93	760.2	63	17.2	89	Calm	0	0	.....	5k	0	NW	.....	0	0	Fair	
Eagle Pass, Texas	29.15	740.4	29.85	758.2	78	25.6	73	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.00	762.0	30.06	763.5	55	12.8	87	N	7	3.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.24	666.5	.....	.....	67	19.4	46	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.38	746.2	30.07	763.8	65	18.3	84	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Escanaba, Michigan	29.39	746.5	30.09	764.3	66	18.9	79	SW	7	3.1	.....	.....	9ks	.....	SW	0	0	Cloudy	
Florence, Arizona	28.29	718.6	29.89	759.2	85	29.4	28	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.84	707.1	29.60	751.8	62	16.7	71	E	12	5.4	.....	5cs	0	W	.....	0	0	Fair	
Fort Custer	26.62	676.1	.....	.....	.....	.....	.....	S	5	2.2	.....	0	5s	.....	S	0	0	Fair	
Fort Davis, Texas	25.27	641.8	30.23	767.8	60	15.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	75	23.9	77	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	70	21.1	32	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.93	760.2	69	20.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.18	690.4	.....	.....	64	17.8	62	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.73	704.3	29.57	751.1	72	22.2	76	S	1	0.4	.....	0	0	.....	.....	0.11	2.8	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.81	757.2	74	23.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.11	714.0	.....	.....	54	12.2	79	E	8	3.6	.....	2ck	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	74	23.3	29	NW	.....	.....	2	8ck	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.05	712.5	29.50	749.3	82	27.8	60	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.88	758.9	29.92	760.0	78	25.6	78	NE	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Graham, Texas	28.87	733.3	29.87	758.7	74	23.3	59	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.42	747.3	30.06	763.5	66	18.9	69	S	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.98	736.1	29.88	758.9	70	21.1	80	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Indianapolis, Indiana	29.32	744.7	30.05	764.0	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.92	760.0	29.94	760.5	81	27.2	87	NE	9	4.0	.....	0	2ks	.....	NE	0	0	Fair	
Jacksboro, Texas	28.82	732.0	29.88	758.9	75	23.9	77	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.86	758.4	29.88	758.9	76	24.4	86	NE	3	1.3	.....	2cs	5s	Calm	NE	0.26	6.6	Fair	
Keokuk, Iowa	29.33	745.0	29.92	760.0	69	20.6	80	SE	7	3.1	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Key West, Florida	29.86	758.4	29.89	759.2	83	28.3	79	S	10	4.5	.....	5cs	0	SW	.....	0.18	4.6	Fair	
Kittyhawk, North Carolina	29.85	758.2	29.87	758.7	65	18.3	89	NE	32	14.3	.....	.....	10s	.....	NE	0.08	2.0	Cloudy	
Knoxville, Tennessee	29.06	738.1	30.04	763.0	60	15.6	80	NE	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.27	741.7	29.91	759.7	65	18.3	73	Calm	0	0	.....	5ck	0	SW	.....	0.10	2.5	Fair	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	62	16.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.49	749.0	29.81	757.2	85	29.4	54	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.01	737.6	29.83	757.7	77	25.0	69	S	14	6.3	.....	1cs	5ks	.....	NW	0	0	Cloudy	
Little Rock, Arkansas	29.69	754.1	30.04	763.0	67	19.4	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.49	749.0	29.82	757.7	55.5	13.1	84	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.51	749.5	30.06	763.5	64	17.8	78	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.38	746.2	30.03	762.7	71	21.7	66	NE	3	1.3	.....	2cs	0	E	.....	0	0	Clear	
Madison, Wisconsin	29.01	736.8	29.96	761.0	65	18.3	73	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	29.94	760.5	62	16.7	72	SW	16	7.2	.....	5ck	0	S	.....	0	0	Fair	
Mason, Texas	28.32	719.3	30.01	762.2	74	23.3	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.09	754.1	30.02	762.5	67	19.4	84	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.32	744.7	30.02	762.5	63	17.2	83	S	3	1.3	.....	0	5ks	.....	W	0	0	Fair	
Mobile, Alabama	29.89	759.2	29.93	760.2	69.5	20.8	87	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.74	755.4	29.97	761.2	64	17.8	83	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction Upper. From—	Clouds. Direction Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observe'r.
Morgantown, West Virginia	29.09	738.9	30.06	763.5	61	16.1	88	Calm	0	0	.....	8k	Fog	N	Calm	0	0	Cloudy	
Mt. Washington, N. H.	28.89	666.8	30.25	768.3	41	5.0	83	E	15	6.7	.....	0	8ks	.....	E	0	0	Clear.....	
Nashville, Tennessee	29.53	750.0	30.05	763.3	67	19.4	69	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.....	
New Haven, Connecticut	29.88	758.9	29.99	761.7	63	17.2	75	NE	18	8.0	.....	2k	0	NE	.....	0	0	Clear.....	
New London, Connecticut	29.93	760.2	29.97	761.2	63	17.2	72	NE	8	3.6	.....	1k	0	NE	.....	Inap.	Inap.	Clear	
New Orleans, Louisiana	29.85	758.2	29.91	759.7	79	26.1	62	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Newport, Rhode Island	29.92	760.0	29.97	761.2	60.5	15.8	85	N	10	4.5	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy.....	
New York, New York	29.83	757.7	30.00	762.0	63	17.2	67	NE	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	29.91	759.7	29.96	761.0	67	19.4	74	N	2	0.9	.....	.....	10s	.....	N	0.11	2.8	Cloudy.....	
North Platte, Nebraska	26.92	683.8	29.88	746.2	61	16.1	88	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Foggy	
Olympia, Washington Ter.	29.78	755.1	29.77	756.1	55.0	12.8	97	N	1	0.4	.....	.....	10s	.....	NE	0.28	7.1	Cloudy	
Omaha, Nebraska	28.62	726.9	29.65	753.1	75	23.9	72	SE	12	5.4	.....	5k	2s	W	Calm	0	0	Fair	
Oswego, New York	29.75	755.6	30.07	763.8	62	16.7	83	NE	3	1.3	.....	5c	0	NW	.....	0	0	Fair.....	
Pembina, Dakota	29.07	738.4	29.89	759.2	48	8.9	93	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.96	761.0	30.01	762.2	62	16.7	72	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona	28.57	725.7	30.24	768.1	86	30.0	36	NE	2	0.9	.....	0	2ks	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	30	3.9	88	NW	22	9.8	.....	1k	0	NW	.....	0	0	Clear.	
Pilot Point, Texas	29.10	739.1	29.87	758.7	86	30.0	75	SE	12	5.4	.....	2k	0	S	.....	0	0	Fair	
Pioche, Nevada	23.95	608.3	29.72	754.9	66	18.8	18	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.27	743.4	30.06	764.0	64	12.2	93	NW	2	0.9	.....	.....	Fog	.....	NW	0	0	Foggy	
Port Huron, Michigan	29.43	747.6	30.08	764.0	62	16.7	83	NW	4	1.8	.....	5ck	0	NW	.....	0	0	Fair.....	
Portland, Maine	30.01	762.2	30.06	763.5	60	15.6	77	N	12	5.4	.....	8k	0	NW	.....	0	0	Cloudy.....	
Portland, Oregon	29.74	755.4	29.81	757.2	56.5	13.6	87	SE	4	1.8	.....	0	5s	.....	S	0.14	3.6	Fair	
Prescott, Arizona	24.75	628.6	30.11	764.8	72	22.2	30	W	.....	.....	1	.....	10ks	.....	W	0	0	Threatening	
Punta Rassa, Florida	29.85	758.2	29.87	758.7	78	25.6	91	S	9	4.0	.....	.....	10n	.....	S	1.12	28.4	Light rain...	
Red Bluff, California	29.49	749.0	29.84	757.9	63	17.2	57	S	14	6.3	.....	2k	0	W	.....	0	0	Fair.....	
Rio Grande City, Texas	29.71	754.6	29.92	760.0	78	25.6	91	Calm	0	0	.....	0	0	.....	.....	0.18	4.6	Clear.....	
Rochester, New York	29.46	748.3	30.06	763.5	60	15.6	77	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear.....	
Roseburg, Oregon	29.30	744.2	29.86	758.4	56	13.3	78	SW	4	1.8	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	
Sacramento, California	29.78	756.4	29.87	758.7	55	12.8	81	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.47	748.5	30.03	762.7	66	18.9	74	S	4	1.8	.....	5ck	0	N	.....	0	0	Fair	
St. Marks, Florida	29.87	758.7	29.88	758.9	71	21.7	75	N	8	3.6	.....	1cs	0	Calm	.....	2.69	68.3	Clear.....	
St. Paul, Minnesota	29.05	737.9	29.84	757.9	65	18.3	83	E	4	1.8	.....	2ck	0	W	.....	0	0	Clear.....	
Salt Lake City, Utah	25.46	646.7	29.79	756.7	69	20.6	16	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.28	743.7	29.83	757.7	81	27.2	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.80	756.9	29.87	758.7	65	18.3	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Clear.....	
Sandusky, Ohio	29.44	747.8	30.10	764.5	62	16.7	83	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	62	16.7	77	NE	24	10.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Francisco, California	29.85	758.9	29.94	760.5	57	13.9	87	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	62	16.7	27	NE	4	1.8	.....	8ck	0	W	.....	0	0	Fair.....	
Savannah, Georgia	29.55	758.2	29.94	760.5	72	22.2	76	NE	9	4.0	.....	2ck	0	SW	.....	0	0	Fair	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	70	21.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.94	760.5	29.98	761.5	69	20.6	80	N	11	4.9	.....	1ck	2ks	W	N	0	0	Fair.	
Socorro, New Mexico	25.45	646.4	29.51	749.5	72	22.2	19	S	8	3.6	.....	2ck	0	Calm	.....	0	0	Fair	
Springfield, Ill	29.40	746.7	30.05	763.3	66	18.9	74	SE	4	1.8	.....	5c;cs	1ks	NW	NW	0	0	Fair.....	
Springfield, Massachusetts	29.91	759.7	30.03	762.7	62	16.7	72	N	7	3.1	.....	0	8ks	.....	NE	0.01	0.3	Cloudy.....	
Stockton, Texas	26.97	685.0	29.97	761.2	63	17.2	28	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.98	761.5	30.03	762.7	59	15.0	88	NE	22	9.8	.....	.....	10s	.....	NE	0	0	Cloudy	
Toledo, Ohio	29.40	746.7	30.08	764.0	60	15.6	82	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.41	696.2	29.96	761.0	81	27.2	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.37	746.0	29.85	758.2	62.5	16.9	56	SW	24	10.7	.....	.....	10s	.....	W	0	0	Cloudy.....	
Uvalde, Texas	29.01	736.8	29.78	756.4	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.74	755.4	29.99	761.7	68	20.0	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.07	611.4	29.55	750.6	58	14.4	27	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.64	752.8	29.90	759.4	58.5	14.7	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.93	760.2	30.04	763.0	65	18.3	73	N	9	4.0	.....	1k	0	NE	.....	0.04	1.0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.87	758.7	29.95	760.7	67	19.4	84	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Winnemucca, Nevada	25.40	645.2	29.76	755.9	51	10.6	28	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.	29.92	760.0	29.96	761.0	61	16.1	82	NE	16	7.2	.....	.....	10ks	.....	NE	0.05	1.3	Threatening	
Yankton, Dakota	28.51	724.1	29.74	755.4	68	20.0	84	E	4	1.8	.....	2ck	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.55	750.6	29.71	754.6	85	29.4	61	SW	14	6.3	.....	2cs	5s	Calm	SW	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba. W. I.	29.83	757.7	29.88	758.9	83	28.3	83	Calm	0	0	.....	4c	4n	Calm	Calm	0	0	Cloudy.	J. B. Gordon.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	79	26.1	91	SE	.....	.....	.....	5c	5cs	Calm	.....	0.07	1.8	Cloudy.....	Chas. Hasselbrink
Medellin, Colombia, S. A.*	25.24	641.1	.....	.....	(5.0	18.3	85	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.17	4.3	.....	James Gall.
Navassa, W. I.	29.84	757.9	29.92	760.0	78	25.6	.....	E	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	83	SE	.....	.....	2	4c	5k	E	.....	0	0	Raining	F. M. Everett.
Santiago de Cuba, W. I.	29.92	760.0	29.95	760.7	81	27.2	78	Calm	0	0	.....	Haze	.....	.....	.....	.....	.....	Fair.....	O. J. Hering.
St. Thomas, W. I.	29.66	753.8	29.67	753.1	83	28.3	83	NE	3	1.3	.....	2c	2ks	E	.....	0	0	.....	Robert Mason.
York Factory, B. A.	29.86	758.4	29.91	759.7	39.5	4.2	95	SW	12	5.4	.....	.....	9s	.....	SW	0	0	Clear.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cloudy.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333.(?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.869 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Characters.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡	.....	.....	77	25.0	77	NW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital. Yokohama, Japan.....	30.00‡	762.0‡	.....	.....	78	25.6	86	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Mare I'd, Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	60	15.6	100	WSW	.....	....	3	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Alaska, Pichilinque Harbor, Mexico*	29.81‡	757.2‡	.....	.....	78	25.6	82	SSE	.....	.....	2	.....	5	.....	N	0	0	.....	.....	D. clouds...	
Alliance, Spit Head, Eng.	29.61‡	752.1‡	.....	.....	63	17.2	83	WSW	.....	.....	5–7	.....	10	.....	W	.....	.....	.....	.....	Raining.....	
Ashuelot, Yokohama, Japan	29.98‡	761.5‡	.....	.....	78	25.6	86	S	.....	.....	3	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.25‡	768.3‡	.....	.....	62	16.7	72	N	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, Off Hog, Island, Va.....	.....	.....	.....	.....	.....	.....	.....	N	.....	.....	5	.....	.....	.....	.....	.....	.....	Rough	.....	Cloudy.....	
Constitution, Navy Yard, Brooklyn, N.Y.	30.01‡	762.2‡	.....	.....	63	17.2	83	NE	.....	.....	3	.....	1	.....	SE	.....	.....	.....	.....	Clear	
Enterprise, Cowes, England.....	29.62‡	752.3‡	.....	.....	63	17.2	89	SW	.....	.....	7	.....	10	.....	SW	.....	.....	Mod'ate	.....	Cloudy.....	
Essex, S 21° 37', W. 40° 04'.....	30.23‡	767.8‡	.....	.....	72	22.2	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.....	29.97‡	761.2‡	.....	.....	68	20.0	74	NE	.....	.....	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Hartford Rio de Janeiro, Brazil...	30.23‡	767.8‡	.....	.....	71	21.7	90	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Hazy.....	
Independence, Mare I'd. Navy Yard, Cal.	29.91‡	759.7‡	.....	.....	63	17.2	78	SW	3.6	1.6	.....	.....	3	.....	SW	.....	.....	.....	.....	Clear.....	
Kearsarge, St. Johns, New Foundland.	30.06‡	763.5‡	.....	.....	41	5.0	??	NE	.....	.....	1	.....	3	.....	.....	.....	.....	.....	.....	Clear.....	
Lackawana, Apia, Samoa Is.....†	29.84‡	757.9‡	.....	.....	76	24.4	91	SE	.....	.....	2	.....	10	.....	SE	.....	.....	Smooth	.....	Cloudy	
Michigan, Milwaukee, Wis.....	29.98‡	761.5‡	.....	.....	64	17.8	89	ESE	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Monocacy, Cheefoo, China.....	29.80‡	758.4‡	.....	.....	75	23.9	86	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongahela, N. 41° 08', E. 141° 48'....	30.04‡	763.0‡	.....	.....	70	21.1	61	ESE	.....	.....	5	.....	kn	.....	.....	0	0	Mod'ate	S	D. clouds....	
New Hampshire. Port Royal, S. C.....	29.92‡	760.0‡	.....	.....	70	21.1	90	NNW	19	8.5	.....	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Onward, Callao, Peru.....†	30.01‡	762.2‡	.....	.....	62	16.7	88	Calm	.....	.. ...	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Chefoo, China.....	29.76‡	756.4‡	.....	.....	75	23.9	81	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Light	NNE	Hazy.....	
Passaic, Washington, D. C.....	30.03‡	762.7‡	.....	.....	65	18.3	84	NE	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Pensacola, Iquique, Peru.....	30.06‡	763.5‡	.....	.....	67	19.9	75	NE	.....	.....	2	.....	10	.. ....	.....	.....	.....	Smooth	.....	Fair.....	
Portsmouth. S.W.Harbor, Mt.Desert, Me.	30.07‡	763.8‡	.....	.....	57	13.9	81	E	.....	.....	2	.....	10	.....	Calm	0	0	Mod'ate	E	Cloudy.....	
Powhatan, Navy Yard, Brooklyn, N. Y.	30.01‡	762.2‡	.....	.....	62	16.7	72	NNE	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Venice, Italy.....	29.97‡	761.2‡	.....	.....	79	26.1	70	SE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Ranger, Yokohama, Japan.....§.	29.93‡	760.2‡	.....	.....	81	27.2	91	SSW	.....	.....	2	.....	5?	.....	Calm	.....	.....	Smooth	.....	Cloudy?	
Richmond, Yokohama, Japan.....	29.99‡	761.7‡	.....	.....	80	26.7	87	S	.....	.....	2	.....	2	.....	S	0	0	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.86‡	758.9‡	.....	.....	79	26.1	95	NNE	.....	....	1	.....	5	.....	N	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md.....	30.04‡	763.0‡	.....	.....	63	17.2	67	NE	.....	.....	4	.....	5	.....	NE	0.02	0.5	.....	.....	Cloudy	
Saratoga, New London, Conn.....	29.98‡	761.5‡	.....	.....	61	16.1	94	NNE	.....	.....	4	.....	5	.....	SW	Light	Light	.....	.....	D. clouds....	
St. Louis, League Island, Pa	30.02‡	762.6‡	.....	.....	65	18.3	78	NE	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Trenton, Gravesend, Eng.....	29.67‡	753.6‡	.....	.....	59	15.0	88	SW	.....	.....	2–3	.....	10	.....	S;W	0.03	0.8	.....	.....	Drizzling....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.91‡	759.7‡	.....	.....	57	13.9	94	WSW	.....	.....	3–5	.....	2	.....	ENE	0	0	Smooth	.....	Squally.....	
Vandalia, Navy Yard, Pensacola, Fla.	29.91‡	759.7‡	.....	.....	74	23.3	??	NE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Cloudy?.....	
Wabash, Boston Mass.....	29.98‡	761.5‡	.....	.....	63	17.2	72	NE	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Overcast....	
Wachusett, Portsmouth, N. H.....	30.02‡	762.5‡	.....	.....	61	16.1	88	N	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Wyoming, Constantinople, Turkey	29.94‡	760.5‡	.....	.....	76	24.4	60	N	.....	.....	3	.....	5	.....	N	.....	.....	Smooth	N	Fair.....	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction						
											Up'er	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S.S.Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, Panama Bay, Panama.†		29.96‡	761.0‡	81	27.2	87	N			1		3		N	0.25 in. or 6.3 mm	Small	N	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.31‡	769.9‡				S			3		10		SW				Raining	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China.....†		29.53‡	760.0‡	79	26.1	95	E			3		2k			Light			Showery.....	D. A. Joyce, 2nd Officer.
S. S Gaelic, Capt. Davidson, N. 37° 52', W. 140° 33'...†		30.45‡	773.4‡	63	17.2		NNW			3		clk		NW	0	Mod'ate	NW	D. clouds.....	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 42° 22', W. 62° 04'		29.94‡	760.5‡	60.5	15.8	97	E			6		10		E	2 h'rs	Long	E	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany.		29.47‡	748.5‡				SW			5		10		W				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N 45° 38', W. 49° 46'		30.04‡	763.0‡	49	9.4	93	NNE			4		9		N	0	Mod'te	NE	Cloudy	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 39° 20', W. 73° 46'		29.89‡	759.2‡	65	18.3	78	NNE	17	7.6			10d		N	0	Rough	NE	Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Race Point, Cape Cod Bay, Mass. †		29.86‡	758.4‡				NE			5		8		NE	Blank	Rough		Cloudy	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 21° 06', W. 38° 26'		30.07‡	763.8‡	80	26.7	87	NNE			3		5				2	NE;SE	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden,																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

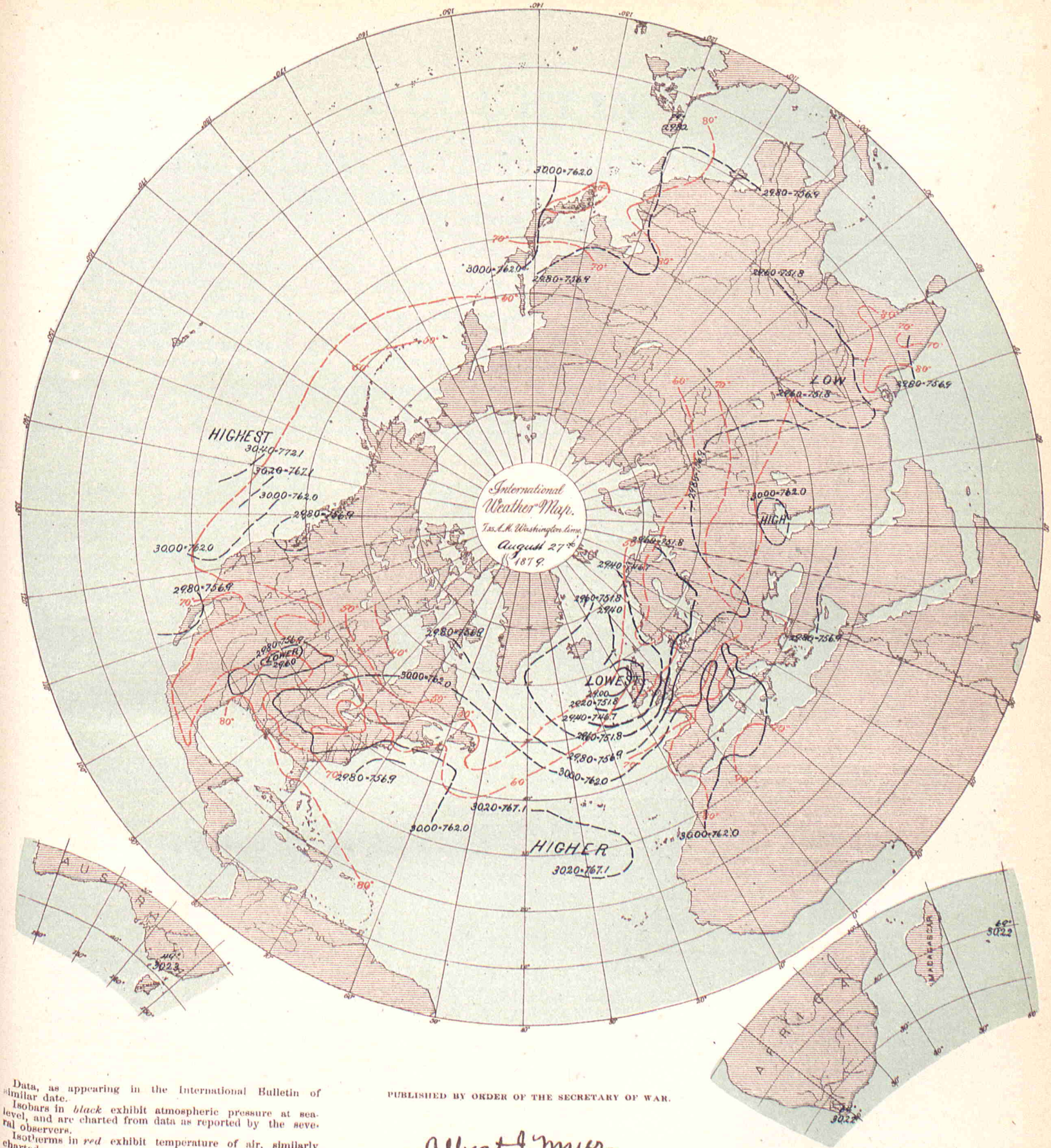
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, *fg* and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 120 Pearl St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.06	763.5	69.1	20.6	89	NE			2		5			0	0	Cloudy	
Nemours			30.05	763.3	84.6	29.2	72	W			2		5			0	0	Cloudy	Kesxuche.
Algiers			30.00	761.9	83.8	28.8	66	NNE			1		0			0	0	Clear	Tourilliere.
La Calle			30.08	763.9	80.6	27.0	87	ENE			5		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.20	767.1															
Saida			30.02	762.4	86.5	30.8	24	Calm			0		0						Gau.
Tebessa			30.14	765.6	91.0	32.8	36	E			1		0			0	0	Clear	Herbin.
Geriville					75.2	24.0	33	S			6		8			0	0	Clear	Watrin.
Laghouat			30.10	764.4	93.6	34.2	29	S			1		5			0.030	1.0	Very cloudy	Brugniaux.
Biskra			30.08	764.1	99.3	37.4	30	Calm			0		0			0	0	Cloudy	Bertrand.
																0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.40	746.0	30.02	762.4	76.0	24.8	67	NE			1		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.8	29.91	759.7	69.1	20.6	63	WSW	7.2	3.2			10			0	0		Prof. Dr. Karlinski, Dir.
Eperies	28.93	734.7	29.77	756.2	68.4	20.2	65	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.80	731.5	30.00	762.0	78.4	23.0	69	SW			2		2			0	0		Andreas Rospini.
Hermannstadt	28.65	727.8	30.02	762.5	75.2	24.0	56	E			1		5			0	0		Prof. A. Gottschling.
Kremsmünster	28.62	726.9	29.89	759.1	79.5	26.4	74	WSW			1		5			0	0		Prof. C. Wagner.
Lemberg	28.93	734.7	29.83	759.0	65.8	18.8	69	SW			2		10			0	0		Dr. T. Stanecki.
Pola	29.90	761.0	30.07	763.7	84.2	29.0	59	W			1		3			0	0		I.R.HydrographicOffice.
Szathmar	29.63	752.6	30.08	764.1	73.8	23.2	49	SW			5		9			0	0		Pet Pancsics.
Szegedin	29.75	755.7	30.02	762.5	74.5	23.6	58	W			1		4			0	0		Karl Stancel.
Trieste	29.98	761.5	30.08	764.1	79.2	26.2	66	N			1		3			0	0		P. Busin.
Vienna	29.25	743.0	30.00	762.0	80.2	26.8	46	WSW			2		5			0	0		I. R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.00	736.6	29.09	738.9	59.0	15.0	.....	S	18	8.0	.....	.....	5	.....	.....	0.120	3.05	D. clouds	W. Boswell.
Ardrossan	29.08	738.6	29.09	738.9	60	15.6	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Wm. McNeil &G.Carrick.
Armagh, Observatory	28.89	733.8	29.10	739.1	58.9	14.9	.....	SSW	20	8.9	.....	.....	7	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.28	743.7	63.3	17.4	.....	SW	36	16.1	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	.....	.....	29.26	743.2	61.8	16.6	.....	S	30	13.4	.....	.....	5	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	28.90	734.0	29.29	744.0	62.6	17.0	.....	NW	.....	.....	3	.....	7	.....	.....	0.68	17.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84.5	29.2	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.35	745.5	29.44	747.8	63.0	17.2	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.43	747.5	64.0	17.8	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.40	746.7	29.53	750.0	61.3	16.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.08	738.6	29.12	739.6	63	17.2	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.54	750.3	29.57	751.1	62	16.7	.....	WSW	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.35	745.5	29.57	751.1	61.6	16.4	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	78	25.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.02	737.1	58	14.4	.....	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.05	763.3	80.3	26.8	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	28.90	734.0	29.10	739.1	60.9	16.1	.....	S	.....	.....	8	.....	6	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.46	748.3	29.46	748.3	62	16.7	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.34	745.2	29.51	749.5	61.4	16.3	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.48	748.8	29.70	754.4	60	15.6	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.57	751.1	29.69	754.1	64	17.8	.....	SW	.....	.....	2	2c	.....	.....	.....	0.66	16.8	Fine	M. P. Moyle.
Holyhead	29.28	743.7	29.29	744.0	60	15.6	.....	SW	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.41	747.0	29.69	754.1	60.1	15.6	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Showery	J. Fisher.
Kew, Observatory	29.48	748.8	29.52	749.8	62.0	16.7	.....	SW	20	8.9	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester, Museum	29.14	740.1	29.38	746.2	62.1	16.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.99	761.7	30.06	763.5	86.4	30.2	.....	NW	2	0.9	.....	1c	.....	.....	.....	.....	.....	Blue sky	A. King.
Nairn	28.95	735.3	29.03	737.3	60	15.6	.....	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.84	757.9	83.0	28.3	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.18	741.1	29.37	746.0	64.3	17.9	.....	SSW	.....	.....	6	.....	8kd	.....	SW	0.106	2.69	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.86	733.0	29.36	745.7	64.0	17.8	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.48	748.8	62	16.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.49	749.0	29.56	750.8	62.8	17.1	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.28	743.7	29.39	746.5	60	15.6	.....	WSW	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.26	743.2	29.42	747.3	60	15.6	.....	SW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.02	737.1	56.2	13.4	.....	SW	10	4.5	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.94	760.5	30.00	762.0	82.8	28.2	.....	NW	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	Serg't. W. H.Lyne.
Sheffield	29.06	738.6	29.35	745.5	59.0	15.0	.....	SW	.....	.....	1	.....	10	.....	.....	0.32	8.1	Raining	W. F. Cooper.
Silloth Rectory	29.17	740.9	29.29	741.7	63.6	17.6	79	W	.....	.....	7	.....	0	.....	.....	0.126	3.20	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.29	744.0	59.0	15.0	.....	SW	17	7.6	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	.....	.....	61.4	16.3	.....	SW	.....	.....	2-3	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.57	751.1	29.58	751.3	66	18.9	.....	SW	.....	.....	7	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.18	741.1	29.20	741.7	59.2	15.1	.....	SSW	59	26.4	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.08	764.0	30.12	765.0	76.0	24.4	.....	SE	4.0	1.8	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.13	739.9	63.8	17.7	.....	SW	.....	.....	3	.....	6k	.....	.....	0.06	1.5	Fine	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.4	69.6	20.9	82	ESE	21.0	9.4	.....	1	4	.....	ESE	0.04	1.0	Squally	C. Melddrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	57.6	14.2	85	NNE	4	1.8	.....	.....	4	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	28.95	735.3	.....	.....	.....	S	.....	.....	4	.....	10	.....	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col.	26.02	660.9	.....	.....	62	16.7	.....	NNW	.....	.....	.....	2n	8n	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 00' E. 28° 10'	.....	.....	30.032	762.7‡	77	25.0	NE	.....	.....	3	.....	4	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	69.8	21.0	95	NE	.....	.....	1	.....	10ns	.....	NW	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.45	747.9	29.49	749.1	67.3	19.6	65	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29.44	747.8	29.46	748.3	61.0	16.1	88	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	.....
Godthaab (Greenland)	29.79	756.6	29.83	757.7	.....	.....	.....	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.50	749.4	29.55	750.5	43.9	6.6	59	NE	.....	.....	8	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Farôe)	28.91	734.4	28.95	735.3	49.3	9.6	99	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	.....
Vestervig	29.28	743.6	29.39	746.4	59.9	15.5	90	SW	.....	.....	6	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.30	744.2	29.85	758.2	70.5	21.4	89	SW	.....	.....	5	.....	10	.....	.....	0.031	0.8	Covered	Collignon, Director.
Amiens, Normal School	29.61	752.0	29.71	754.7	71.2	21.8	84	S	.....	.....	5	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.40	746.7	29.65	753.0	69.6	20.9	78	SW	.....	.....	5	.....	.....	.....	W	0.028	0.7	.....	Klein, Commandant.
Avignon, Normal School*	29.97	761.2	30.05	763.2	89.6	32	42	SE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.85	758.6	29.88	758.9	79.2	26.2	54	SW	.....	.....	5	.....	2k	.....	SW	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.48	748.7	29.73	755.1	72.3	22.4	71	SW	.....	.....	5	.....	10	.....	WSW	0.039	1.00	Covered	Frere Eugene Marie.
Besançon, Normal School	29.10	739.2	29.35	760.7	78.8	26	76	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.4	30.16	766.1	80.6	27	63	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.37	745.9	29.80	759.4	73.6	23.1	79	SW	.....	.....	5	.....	ck	SW	SW	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.47	748.4	29.71	754.6	63.7	17.6	92	WSW	.....	.....	1	.....	10	.....	W	0.591	15.00	Rain & fog	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.60	751.7	29.88	761.6	82.8	28.2	39	NE	.....	.....	2	.....	1	.....	WNW	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	29.56	750.8	29.63	752.6	70.5	21.4	80	SW	.....	.....	5	.....	8	.....	SW	0	0	Very cloudy	M. Bietrix, Director.
Chartres, Normal School	29.38	746.3	29.93	760.2	72.3	22.4	81	SW	.....	.....	2	.....	10	.....	SW	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.52	749.8	29.75	755.7	66.0	18.9	59	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.63	727.1	29.89	759.3	86.7	30.4	33	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.13	739.9	29.95	760.7	74.8	23.8	60	WSW	.....	.....	5	.....	2ckn	WSW	WSW	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèsque*	29.00	736.7	30.15	765.7	89.1	31.7	39	S	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.37	745.9	30.12	765.0	78.8	26.0	60	NNE	.....	.....	1	.....	s	.....	NE	0	0	.....	Ablard, Director
La Roche-sur-Yon, N. School	29.84	757.8	30.04	763.0	69.3	20.7	82	SSW	.....	.....	5	.....	5	.....	SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.54	750.3	29.84	757.9	69.3	20.7	80	SSW	.....	.....	5	.....	8	.....	SSW	0.059	1.50	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.10	739.2	29.99	761.7	81.7	27.6	55	SW	.....	.....	3	.....	1	SW	SW	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.68	753.9	29.78	756.5	63.8	18.8	96	SW	.....	.....	6	.....	.....	.....	SW	0.126	3.20	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	746.0	29.95	760.7	83.8	28.8	45	SSW	.....	.....	1	c	.....	.....	WSW	0	0	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.80	757.0	30.07	763.7	79.2	26.2	68	WNW	.....	.....	0-1	.....	2	.....	WNW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.85	732.9	29.85	758.1	77.0	25	55	SW	.....	.....	5	.....	2ck	W	W	.....	.....	Slightlycl'dy	Barbier, Director.
Mont-Louis	25.11	637.7	30.42	772.7	78.8	26.0	25	SW	28.0	12.5	.....	.....	.....	.....	W	6	0	.....	M. Olave.
Nice	30.07	763.6	30.10	764.5	79.5	26.4	71	W	.....	.....	1	.....	2	W	W	0	0	Slightly cov	M. Boissiéré, Director.
Nismes, Normal School	29.79	756.6	29.98	761.4	91.8	33.2	57	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.53	750.1	.....	.....	73.0	22.8	69	SW	.....	.....	5	.....	10	.....	SW	Inap.	Inap.	.....	Marie Davy, Director.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.78	578.5	.....	.....	67.6	19.8	.....	SSW	.....	.....	2	.....	1	.....	SSW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.97	761.3	30.06	763.9	73.6	23.1	85	SE	3.8	1.7	.....	.....	10	.....	.....	Inap.	Inap.	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.30	642.7	.....	.....	64.4	18.0	62	W	.....	.....	5	.....	2	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.98	761.4	30.01	762.2	74.7	23.7	99	WSW	.....	.....	5	.....	5	WSW	WSW	0.12	3.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.62	752.4	29.71	754.5	71.6	22.0	73	S	.....	.....	5	.....	10	.....	S	0.114	2.9	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.67	753.6	29.70	754.4	67.1	19.5	93	SW	.....	.....	5	.....	8	SW	SW	0.152	3.87	Light rain	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.65	753.0	29.82	757.8	73.0	22.8	72	SW	.....	.....	5	.....	10	.....	WSW	0.142	3.6	.....	E. Renou, Director.
Tarbes, Normal School	29.04	737.6	30.09	764.2	72.5	22.5	70	W	.....	.....	2	.....	2	W	NW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.32	744.8	30.05	763.2	87.1	30.6	50	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.71	754.7	29.91	759.7	75.6	24.2	66	WSW	.....	.....	3	.....	8	.....	WSW	0	0	Almost cov'd	Cousin-Marquet.
Versailles, Observatory	29.32	744.8	29.82	757.3	71.6	22.0	71	SW	.....	.....	6	.....	.....	.....	.....	0.077	1.98	.....	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.27	743.5	29.94	760.5	85.1	29.5	46	ESE	.....	.....	3	.....	5	.....	E	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.76	756.0	29.79	756.7	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.91	759.6	29.93	760.2	79.5	26.4	95	ESE	7.8	3.5	.....	8cs	.....	SW	.....	0	0	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grèsque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferraud is 388 meters, or 1,273 feet: Commune de Grèsque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.8	29.89	759.1	70.9	21.6	62	W	.....	.....	8	.....	4	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.59	751.5	29.75	755.7	73.2	22.9	58	SW	.....	.....	3	.....	9	.....	.....	0.075	1.9	Raining	Prof. Dr. Arndt.
Breslau	29.33	745.0	29.88	758.4	71.8	22.1	62	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Royal University Ob'y.
Carlsruhe	29.44	747.8	29.85	758.1	80.2	26.8	53	SW	.....	.....	4	.....	1	SW	.....	0	0	.....	Albert Senx.
Cassel	29.17	740.9	29.77	756.2	68.0	20.3	86	S	.....	.....	2	.....	8	SW	.....	0.127	3.22	.....	Dr. H. Möhl.
Crefeld	29.50	749.2	29.66	753.3	68.2	20.1	84	S	.....	.....	7	.....	10	.....	.....	0.16	4.	.....	Director Lose.
Emden	.....	.....	29.54	750.4	62.8	17.1	94	SW	.....	.....	3	.....	10	.....	.....	0.811	20.6	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.47	748.4	29.82	757.5	74.3	23.5	.....	WSW	.....	.....	4	.....	5	.....	.....	0.441	11.2	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.58	726.0	29.96	760.9	73.9	23.3	67	S	.....	.....	3	.....	4	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.56	750.7	29.62	752.4	64.0	17.8	90	SW	.....	.....	4	.....	10cs	.....	.....	0.622	15.8	Raining	Captain F. Hegemann.
Kiel	29.54	750.3	29.56	750.8	66.0	18.9	73	WSW	.....	.....	3	.....	8	.....	.....	0.669	16.99	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.54	750.4	29.62	752.4	60.4	15.8	95	SW	.....	.....	5	.....	10	.....	.....	0.295	7.5	.....	Prof. E. Luther.
Köslin	.....	.....	29.59	751.5	67.3	19.6	.....	SW	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.40	746.7	29.81	757.1	68.0	20.0	74	SW	.....	.....	3	.....	10	WSW	.....	0.016	0.4	Drizzling	Prof. Bruhns, Privy Counselor.
Memel	29.55	750.5	29.60	751.7	58.1	14.5	95	S	.....	.....	4	.....	10n	.....	.....	.....	.....	Raining	Skalweit.
Munich (München)	28.18	715.7	30.04	763.0	79.7	26.5	38	W	.....	.....	8	.....	7	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	29.61	752.1	29.63	752.5	65.8	18.8	83	SW	.....	.....	3	.....	10	.....	.....	0.138	3.5	.....	A. Lothes.
Posen	29.50	749.3	29.78	756.3	70.9	21.6	63	W	.....	.....	5	.....	9	.....	.....	0.031	0.8	.....	Dr. Magener.
Strassburg (in Alsace)	29.37	746.1	29.89	759.3	82.4	28.0	42	SW	.....	.....	5	.....	3	SW	.....	0	0	.....	Imp. University Observatory
Stuttgart	28.94	735.1	29.82	757.5	81.0	27.5	38	SW	.....	.....	5	.....	3	W	.....	0	0	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.5	29.87	758.8	76.6	24.8	43	W	11	5	.....	6c	0	.....	.....	0	0	.....	T. Hopfner.
Wustrow	29.55	750.6	29.58	751.2	64.8	18.2	80	SW	.....	.....	5	.....	10s	.....	.....	0.594	15.1	.....	E. Schultz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 metres, or 1,356.0 feet; Munich, 528.5 m., or 1,735.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.4	29.99	761.8	90.7	32.6	.....	SW	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.62	752.3	29.67	753.6	83.4	28.6	79	WNW	12.0	5.4	.....	.....	8	.....	WNW	0.04	1.0	Thunder-storm	.....
Deesa	29.23	742.5	29.70	754.4	83.4	28.6	77	W	9.7	4.3	.....	.....	4	.....	W	0.18	4.6	D. clouds	.....
Bombay	29.75	755.5	29.78	756.5	81.7	27.6	87	WSW	14.0	6.3	.....	.....	9	.....	WSW	0.16	4.1	D. clouds	.....
Poona	27.93	709.5	29.79	756.7	76.3	24.6	77	W	19.0	8.5	.....	.....	6	.....	W	0.01	0.3	D. clouds	.....
Lahore	28.83	732.2	29.54	750.4	93.1	33.9	67	Calm	1.5	0.7	.....	.....	2	.....	.....	0	0	Blue sky	.....
Belgaum	27.28	693.0	29.85	758.2	69.8	21.0	96	SSE	14.0	6.3	.....	.....	10	.....	W	0.10	2.5	Overcast	.....
Roorkee	28.68	728.6	29.56	750.9	85.6	29.8	79	Calm	2.9	1.3	.....	.....	5	.....	.....	0.35	8.9	D. clouds	.....
Agra	29.03	737.2	29.58	751.4	81.7	27.6	91	S	4.1	1.8	.....	.....	8	.....	S	0	0	.....	.....
Nagpur	28.64	727.8	29.67	753.5	83.2	28.4	75	WNW	4.0	1.8	.....	.....	6	.....	SE	0	0	D. clouds	.....
Lucknow	29.22	742.2	29.59	751.5	87.1	30.7	76	SE	2.0	0.9	.....	.....	7	NNW	NW	0.63	16.0	D. clouds	.....
Allahabad	29.29	744.0	29.60	751.8	82.0	27.8	88	Calm	1.4	0.6	.....	.....	10	.....	.....	0.01	0.3	Overcast	.....
Patna	29.40	746.6	29.57	751.1	89.2	31.8	77	Calm	0.2	0.1	.....	.....	8	Calm	Calm	0	0	D. clouds	.....
Hazaribagh	27.64	702.1	29.66	753.3	73.8	23.2	93	WNW	5.7	2.6	.....	.....	10	.....	.....	0.60	15.2	Thunder-storm	.....
Cuttack	28.56	725.3	29.64	752.7	83.7	28.7	83	WSW	1.0	0.4	.....	.....	9	.....	.....	0.03	0.8	D. clouds	.....
Calcutta (Alipore)	29.61	752.1	29.63	752.6	80.7	27.1	91	SE	4.0	1.8	.....	.....	10	.....	SSE	0.12	3.0	Overcast	.....
Goalpara	29.19	741.5	29.58	751.2	86.4	30.2	70	Calm	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky	.....
Chittagong	29.55	750.6	29.64	752.8	81.4	27.4	89	W	.....	.....	.....	.....	9	.....	.....	0	0	Misty	.....
Sibsagar	29.25	742.9	29.57	751.1	89.5	31.9	69	W	2.0	0.9	.....	.....	4	.....	.....	0	0	D. clouds	.....
Jubbulpore	28.29	718.6	29.64	753.0	81.6	27.6	75	Calm	3.4	1.5	.....	.....	8	.....	N.	0.03	0.8	Overcast	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.65	753.2	30.05	763.2	77.7	25.4	50	NE	0.7	0.3			7			0	0		Prof. Giovanni Clodig.
Milan	29.53	750.0	30.02	762.6	82.0	27.8	54	ESE			4		4	WSW		0	0		Prof. Schiaparelli.
Padua	29.95	760.8	30.06	764.5	81.7	27.6	51	S	1.3	0.6			6	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.16	740.7	30.03	762.8	78.8	26.0	50	ESE	1.3	0.6			8			0	0		Prof. P. F. Denza.
Genoa	29.92	759.9	30.10	764.5	77.0	25.0	64	SE	9.8	4.4			2	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.19	716.1	30.02	762.5	75.6	24.2	59	NE			2		1			0	0		Prof. D. C. Bruno.
Pesaro	30.00	762.1	30.05	763.3	78.8	26.0	70	NE	12.5	5.6			6			0	0		Prof. Luigi Guidi.
Florence	29.84	758.0	30.09	764.3	84.2	29 0	35	W			2		5			0	0		Cav. F. Meucci.
Leghorn	30.00	761.9	30.08	764.0	80.4	26.9	60	WSW	3.1	1.4			3			0	0		Prof. P. Monte.
Rome	29.91	759.6	30.08	763.9	88.3	31.3	53	WSW	0	0			7			0	0		Prof. P. S. Ferrari.
Lecce	29.81	757.1	30.05	763.3	83.3	28.5	60	NNE	13.7	6.1			6			0	0		Prof. C. De Giorgi.
Cosenza	29.19	741.4	30.03	762.7	87.8	31.0	57	SE	0.7	0.3			5			0	0		Prof. D. Conti.
Cagliari	29.91	759.8	30.10	764.5	84.7	29.3	59	SE			2		4			0	0		Prof. A. Pacinotti.
Palermo	29.85	758.3	30.10	764.6	84.9	29.4	33	ENE	4.3	1.9			6			0	0		Prof. G. Cacciatore.
Syracuse	29.99	761.8	30.07	763.7	81.5	27.5	67	E	6.3	2.8			7	S		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.9	30.12	765.0	82.8	28.2	65	ESE	1.8	0.6			5			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 879.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.94	760.5	78.2	25.7	91	SW	0.8	0.3			10ck;ks		SW	0.178	4.52	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.94	760.5	77.7	25.4	92	SSE	1.1	0.5			2ck;cs			1.530	38.86	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.84	757.9	29.90	759.4	78.3	25.7	89	S	4.0	1.8			10ck;s			0	0	Cloudy	The Staff.
Wakayama	29.88	758.9	29.93	760.2	80.6	27.0	80	S	0.7	0.3			7ck;s			0.001	0.02	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	24.96	633.9	29.92	760.0	59.9	15.5	77	E			1		9		Calm	0	0	Very cloudy	Prof. L. Peres.
Leon	24.35	618.5	29.94	760.4	65.3	18.5	84	NW			2	5c	3s	NE		0.03	0.8	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	22.98	583.8	29.90	759.4	58 1	14.5	87	NW	1.1	0.5			10m			0.15	3.7	Light rain	The Staff.
Pabellon (Aguascalientes)					64.9	18.3	89	Calm			0	0	10km			0	0	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.78	756.5	29.80	756.8	78.1	25.6	93	W			1	2	8	W	NW	0.44	11.1	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.14	613.1	30.02	762.6	62.6	17.0	59	E			1		10		E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossel.
Zacatecas	22.50	571.5	30.00	761.9	60.6	15.9	75	NE			1	7cs	0	E		0	0	Cloudy	A. Nuñez.
Puebla (Catholic Institute)	23.33	592.6	30.00	762.1	57.2	14.0	81	W	0.4	0.2			10k		S	0.55	13.9	Covered	Prof. P. Spina.
Colima																			R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.57	751.0	29.85	758.2	75.6	24.2	97	NE			1	1cs	8n	Calm	NE	0.08	2.0	Rainy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.67	751.0	29.57	751.0	66.6	19.2		SW			4					0.146	3.7		
Groningen	29.60	749.3	29.56	750.7	62.4	16.9		SW			3					0.539	13.7		
Helder	29.61	749.5	29.61	749.5	61.2	16 2		SW			4					0.287	7.3		
Hellevoetsluis	29.54	750.3	29.54	750.3	64.6	18.1	96	S			3					0.236	6.0		
Utrecht	29.61	749.5	29.56	750.7	65.3	18.5	97	SSW			5		10			0.811	20.6	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.05	737.8	29.10	739.2	57.6	14.2	96	S	31.3	14.0	.....	.....	10	.....	.....	0.551	14.0	Raining.....	
Brönö	29.10	739.2	29.14	740.2	64.8	18.2	64	S	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.08	738.6	29.22	742.2	59.9	15.5	80	SSE	7	3	.....	.....	10	.....	.....	0.091	2.3	.....	
Tromsö	29.25	743.0	29.30	744.1	51.4	10.8	72	NW	11	5	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.93	760.1	30.11	764.8	77.0	25.0	82	W	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.22	742.1	30.18	766.6	88.8	31.3	26	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.08	763.9	30.18	766.1	78.1	24.6	68	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.4	30.13	765.2	78.1	25.6	50	NNE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.10	764.6	30.19	766.8	81.0	27.2	77	SW	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.96	760.9	69.8	21.0	.....	W	.....	.....	3	.....	3	.....	W	1	W	D. clouds.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Fogo, Cape Verd Islands	.....	.....	30.01	762.2	77.4	25.2	.....	ESE	.....	.....	3	.....	4	.....	ESE	2	.....	D. clouds.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.80	757.0	84.2	29.0	.....	E	.....	.....	3	.....	7	.....	E	1	SE	D. clouds.....	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.36	745.8	29.78	756.3	62.2	16.8	81	WSW	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.34	745.3	29.75	755.7	60.6	15.9	83	S	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.36	745.8	29.60	751.8	60.8	16.0	73	SW	9	4	.....	.....	9ks;n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.53	750.0	29.54	750.4	56.5	13.6	81	WNW	4	2	.....	.....	9ks;n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.31	744.4	29.92	760.0	65.1	18.4	61	NW	7	3	.....	.....	10cs;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.02	769.9	29.90	761.7	76.3	24.6	53	NNW	4	2	.....	.....	3cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.93	760.3	29.95	760.8	79.3	26.3	88	SW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.27	743.5	29.81	757.2	60.6	15.9	80	S	10.1	4.5	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.61	752.2	29.81	757.1	55.8	29.9	36	SSE	18	8	.....	.....	4	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.20	741.7	29.22	742.2	60.6	15.9	93	S	9	4	.....	.....	10	.....	.....	.....	.....	Raining.....	Capt. Sselliwerstow.
Tiflis	28.54	724.9	29.87	758.8	84.2	29.0	43	Calm	0	0	.....	.....	9s	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.05	763.3	29.97	761.2	81.5	27.5	43	ESE	7	3	.....	.....	7cs;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.50	749.4	29.95	760.7	82.2	27.9	25	S	16	7	.....	.....	3	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.60	751.9	29.65	758.3	80.5	27.1	32	SSW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.10	739.0	30.03	762.8	66.9	19.4	55	Calm	0	0	.....	c	6cs;ck;n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.49	749.1	29.71	754.7	85.8	29.9	22	NNE	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.38	719.5	29.82	757.3	79.5	26.4	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.37	745.9	29.85	758.2	62.1	16.7	66	W	2	1	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.6	29.75	755.7	59.5	15.3	88	W	4	2	.....	.....	9	.....	.....	.....	.....	Raining.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.72	754.9	29.86	758.5	76.1	24.5	60	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.75	755.7	29.85	758.2	69.4	20.5	72	SW	7.8	3.5	.....	5c	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	83.8	28.8	60	SW	2.4	1.06	.....	c	3ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.97	761.1	30.02	762.5	88.2	31.2	49	NW	2.7	1.19	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.17	690.2	.....	.....	85.6	29.8	33	SW	3.4	1.53	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.89	708.4	29.95	760.7	96.4	35.8	20	SW	9.7	4.34	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.89	759.3	30.04	762.9	98.6	37 0	33	S	2.4	1.06	.....	0	0	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.16	740.7	30.03	762.7	72.9	22.7	72	SW	14.3	6.4	.....	0	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.74	755.4	29.80	757.0	75.1	25.6	88	SE	6.7	3.0	.....	10pc	3s;n	WSW	.....	1.425	36.2	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.73	755.1	29.78	756.4	80.3	26.8	89	S	8.9	4.0	.....	4c	4kn	E	W	0.756	19.2	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.1	30.06	763.6	82.6	28.1	63	WNW	11.7	5.3	.....	1	0	NW	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.86	758.4	29.95	760.7	81.7	27.6	82	SE	4.6	2.05	.....	2s	2k	SE	SE	0	0	Clear.....	Leonardo de Tejada, Ch't Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 660 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.88	746.3	29.42	747.3	63.7	17.6	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	29.87	745.9	29.42	747.2	63.7	17.6	67	SW	.....	.....	4	.....	7	.....	.....	0.740	18.8	.....	
Hernosand	29.85	745.6	29.41	746 9	64.4	18.0	69	SSE	.....	.....	6	.....	8	.....	.....	0.075	1.9	.....	
Stockholm	29.26	743.2	29.44	747.7	63.0	17.2	72	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.39	746.4	29.45	747.9	61.9	16.6	79	SW	.....	.....	4	.....	10	.....	.....	0.591	15.0	.....	
Sub-Series.																			
Upsala	29.31	744.4	29.39	746.6	62.6	17.0	81	S	12.8	5.7	.....	.....	7	.....	S	0.203	5.16	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.2	29.98	761.4	82.6	28.1	48	W	.....	.....	4	.....	3	.....	.....	0	0	Smoky	The Observatory.
Zurich	28.40	721.4	29.96	760.9	79.3	26.3	58	S	.....	.....	2	.....	2	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −0.4 mm.; Thermometer, +7.6 Cent.; Relative Humidity, −10 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.1	77.4	25.2	55	NNE	13	6.0	.....	.....	6	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.18	766.6	87.4	30.8	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightlycl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.72	754.9	29.83	757.7	86.0	30.0	58	W	.....	.....	1	.....	1k	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	30.14	765.5	30.20	767.1	55	12.8	94	SE	1	0.4	.....	0	0	.....	.....	0	0	.....	W. R. Bigg.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.3	59	15 0	83	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	G. A. Bish.
Cornwall, Ontario	29.86	758.4	30.05	763.3	66.0	18.8	96	SE	.....	.....	1	3cs	0	.....	.....	0	0	Clear	H. J. Cundall, C. E
Dalhousie, N. B	30.02	762.5	30.18	766.6	53.8	12.1	95	W	.....	.....	1	0	0	.....	.....	0	0	Fair	James Smith, M. A.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Foggy	H. A. Johnson.
*Father Point, Quebec	30.11	764.8	30.18	766.8	56	14.4	78	W	6	2.7	.....	5k	Haze	Calm	Calm	0	0	.....	W. H. Bevis.
Fredericton, N. B	30.12	765.0	30.18	766.6	55.2	12.9	81	W	2	0.9	.....	0	0	.....	.....	0	0	Hazy	J. McWilliams.
*Fort Garry, Manitoba	29.07	738.4	29.88	758.9	57	13.9	90	E	8	3.6	.....	5k	Haze	W	W	0	0	Clear	Prof. Harrison.
Granton, Ontario	29.90	736.0	30.08	764.0	61	16.1	94	W	.....	.....	1	1cs	0	.....	.....	0	0	Fair	James Stewart.
*Halifax, N. S	30.01	762.2	30.18	765.3	59	15.0	83	SE	7	3.1	.....	0	5ks	.....	SE	0	0	Clear	James Grant.
Hamilton, Ontario	29.75	755.6	30.10	764.5	61.9	16.6	80	SW	.....	.....	1	2c	0	NW	.....	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fine	Geo. Dickson, A. M.
*Kingston, Ontario	29.75	755.6	30.07	763.8	65	18.3	73	SW	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	E. Weedon.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. Woods, M. A.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
*Montreal, Quebec	29.88	758.9	30.08	764.0	60	15.6	85	E	3	1.3	.....	10c	0	.....	.....	.....	.....	.....	J. R. Nason
*Parry Sound, Ontario	29.86	758.7	30.03	762.7	62	16.7	83	E	5	2.2	.....	2ck	2ks	W	W	0	0	Cloudy	C. H. McLeod, C. E.
Peterboro, Ontario	29.94	760.2	30.07	763.8	64.7	18.2	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario	29.40	746.7	30.09	764.3	59	15.0	94	Calm	0	0	.....	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Hastings, N. S	30.07	763.8	30.12	765.0	63.6	17.6	.....	SE	8	3.6	.....	.....	.....	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.45	748.0	30.09	764.3	56	13.3	97	W	1	0.4	.....	0	Haze	.....	.....	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.80	756.9	30.11	764.8	58	14.4	88	NE	.....	.....	3	2c	2s	NE	NE	0	0	Hazy	M. Payne.
*Rockliffe, Ontario	29.59	751.6	30.04	763.0	56	13.3	94	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Fair	Capt. Ashe, R. N.
St. Andrews, N. B	30.07	763.8	30.13	765.3	55	12.8	87	NE	.....	.....	1	0	0	.....	.....	0	0	Foggy	W. H. McIntyre.
St. John, N. B	29.98	761.5	30.15	765.8	54	12.2	87	E	9	4.0	.....	9k	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.32	744.7	30.00	762.0	67	19.4	78	SW	9	4.0	.....	0	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	28.82	732.0	30.07	763.8	60.3	15.7	74	SW	7	3.1	.....	2ck	2s	SW	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B	30.16	766.1	30.20	767.1	60	15.6	84	SE	1	0.4	.....	0	0	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Toronto, Ontario	29.71	754.6	30.09	764.3	61	16.1	93	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
Windsor, N. S	30.08	764.0	30.11	764.8	58.6	14.7	85	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Woodstock, Ontario	29.03	737.3	30.07	763.8	62.6	16.9	83	SW	9	4.0	.....	7k	0	.....	.....	0	0	Fair	Prof. John F. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.28	769.1	60.0	15.6	71	E	.....	.....	.....	0	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.90	759.4	30.13	765.3	62	16.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.34	745.2	29.96	761.0	65	18.3	78	W	6	2.7	.....	0	Haze	.....	.....	0	0	Clear.	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	49	9.4	100	W	23	10.3	.....	.....	10s	.....	W	0.49	12.4	Cloudy	
Atlanta, Georgia	28.91	734.3	30.03	762.7	63	17.2	78	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	30.08	764.0	30.10	764.5	61	16.1	88	N	11	4.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Augusta, Georgia	29.87	758.7	30.06	763.5	71	21.7	66	NE	1	0.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Baltimore, Maryland	30.10	764.5	30.15	765.8	65	18.3	68	E	4	1.8	.....	5k	Sm'e	NE	Calm	0	0	Fair	
Barnegat, New Jersey	30.06	763.5	30.09	764.3	61	16.1	82	N	17	7.6	.....	8k	2s	NE	NE	0	0	Cloudy	
Bismarck, Dakota	27.88	708.1	29.74	755.4	71	21.7	90	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Boerne, Texas	28.46	722.9	29.73	755.1	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.04	686.8	30.00	762.0	51	10.6	59	W	5	2.2	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.94	760.5	30.10	764.5	62.5	16.9	72	NE	12	5.4	.....	1k	0	NE	.....	0	0	Clear	
Brackettville, Texas	28.77	730.7	29.76	755.9	75	23.9	64	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.75	730.2	29.68	753.9	68	20.0	95	SW	10	4.5	.....	10ck	0	SW	.....	0	0	Cloudy	
Brownsville, Texas	29.75	755.6	29.80	756.9	74	23.3	95	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.39	746.5	30.07	763.8	65	18.3	81	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.81	757.2	30.10	764.5	62	16.7	72	S	5	2.2	.....	2c	0	SW	.....	0	0	Fair	
Cairo, Illinois	29.70	754.4	30.08	764.0	70	21.1	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.30	693.4	29.87	758.7	37	2.8	63	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	67	19.4	74	NE	23	10.3	.....	0	8s	.....	NE	0	0	Cloudy	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	66	18.9	79	N	16	7.2	.....	2k	2s	N	N	0	0	Fair	
Cape Lookout, N. Carolina	30.0	762.0	30.02	762.5	67	19.4	79	NE	24	10.7	.....	2k	0	NE	.....	0.05	1.3	Fair	
Cape May, New Jersey	30.06	763.5	30.09	764.3	62	16.7	77	N	19	8.5	.....	2ck	0	N	.....	0	0	Clear	
Castroville, Texas	29.11	739.4	29.79	756.7	74	23.3	81	NW	4	1.8	.....	2ck	0	N	.....	0	0	Fair	
Charleston, South Carolina	29.93	760.2	29.99	761.7	70	21.1	66	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.23	742.4	30.03	762.7	65	18.3	73	E	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.28	743.7	30.06	763.5	65	18.3	78	Calm	0	0	.....	5ck	Sm'e	N	Calm	0	0	Fair	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	65	18.3	35	W	8	3.6	.....	0	Haze	.....	.....	0	0	Clear	
Chicago, Illinois	29.37	746.0	30.03	762.7	70	21.1	66	S	3	1.3	.....	2ck	Haze	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.49	749.0	30.13	765.3	63	17.2	83	E	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.40	746.7	30.12	765.0	59	15.0	82	E	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.12	714.2	29.73	755.1	67	19.4	64	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.28	743.7	30.10	764.5	62	16.7	83	Calm	0	0	.....	0	Smo'	.....	Calm	0	0	Smoky	
Concho, Texas	27.99	710.9	29.59	751.6	72	22.2	67	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.50	749.3	29.95	760.7	69	20.6	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.39	746.5	30.01	762.2	68	20.0	90	SE	8	3.6	.....	.....	10ks	.....	NW	0.74	18.8	Cloudy	
Deadwood, Dakota	25.18	639.6	.....	.....	67	19.4	37	S	4	1.8	.....	2cs	0	S	.....	0	0	Fair	
Decatur, Texas	28.79	731.3	29.90	759.4	76	24.4	56	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.18	741.1	29.94	760.5	70	21.1	85	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	63	17.2	42	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.02	737.1	29.84	757.9	75	23.9	72	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Detroit, Michigan	29.42	747.3	30.08	764.0	63	17.2	83	SW	6	2.7	.....	5ck	Sm'e	NW	Calm	0	0	Fair	
Dodge City, Kansas	27.34	694.4	29.50	749.3	71	21.7	53	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.27	743.4	29.94	760.5	71	21.7	85	SE	8	3.6	.....	.....	10n	.....	SE	0.39	9.9	Heavy rain	
Duluth, Minnesota	29.27	743.4	29.92	760.0	67	19.4	64	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texas	29.10	739.1	29.80	756.9	75	23.9	64	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.07	763.8	30.13	765.3	54	12.2	80	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.18	665.0	.....	.....	66	18.9	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.39	746.5	30.09	764.3	64	17.8	78	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.32	744.7	29.95	760.7	63	17.2	83	NW	1	0.4	.....	2k	0	NW	.....	0	0	Fair	
Florence, Arizona	28.30	718.8	29.90	759.4	87	30.6	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.50	698.5	29.18	741.1	72	22.2	55	SE	11	4.9	.....	10cs	0	SE	.....	0	0	Cloudy	
Fort Custer	26.48	672.6	.....	.....	.....	.....	.....	SE	14	6.3	.....	5c	0	W	.....	0	0	Fair	
Fort Davis, Texas	25.20	640.1	30.16	766.1	59	15.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.97	761.2	71	21.7	90	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.17	639.3	29.97	761.2	74	23.3	51	Calm	0	0	.....	10s	0	Calm	.....	0	0	Cloudy	
Fort Griffin, Texas	28.70	729.0	29.93	760.2	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.00	685.8	.....	.....	68	20.0	60	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.68	703.1	29.51	749.5	71	21.7	75	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.82	757.4	73	22.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.83	706.9	.....	.....	71	21.7	85	SE	14	6.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	68	20.0	84	NW	.....	.....	1	0	2s	.....	W	0.42	10.7	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.10	713.7	29.55	750.8	78	25.6	73	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.83	757.7	29.87	758.7	75	23.9	81	NE	9	4.0	.....	Haze	1ks	Calm	E	0	0	Clear	
Graham, Texas	28.87	733.3	29.88	758.9	70	21.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.39	746.5	30.02	762.5	69	20.6	75	S	12	5.4	.....	2c	Sm'e	SW	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.00	736.6	29.90	759.4	67	19.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.33	745.0	30.09	764.3	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.86	758.4	29.88	758.9	77	25.0	82	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	28.84	732.5	29.93	760.2	72	22.2	80	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.87	758.7	29.89	759.2	73	22.8	90	NW	3	1.3	.....	.....	10n	.....	Calm	1.49	37.8	Light rain	
Key West, Florida	29.88	746.2	29.97	761.2	70	21.1	90	SE	8	3.6	.....	5k	5ks	NW	Calm	0.01	0.3	Threatening	
Kittyhawk, North Carolina	29.80	756.9	29.83	757.7	80	26.7	78	S	10	4.5	.....	10k	0	S	.....	1.10	27.9	Cloudy	
Knoxville, Tennessee	29.95	760.7	29.98	761.5	65	18.3	84	NE	32	14.3	.....	2cs	Haze	NE	Calm	0	0	Fair	
La Crosse, Wisconsin	29.11	739.4	30.09	764.3	63	17.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Foggy	
La Mesilla, New Mexico	29.19	741.4	29.89	759.2	70	21.1	80	S	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Laredo, Texas	26.00	660.4	30.15	765.8	62	16.7	51	Calm	0	0	.....	0	2ks	.....	S	0	0	Fair	
Leavenworth, Kansas	29.45	748.0	29.78	756.4	80	26.7	59	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.09	738.9	29.88	758.9	74	23.3	72	S	9	4.0	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.70	754.4	30.04	763.0	67	19.4	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.50	749.3	29.84	757.9	56.5	13.6	78	NE	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.55	750.6	30.10	764.5	64	17.8	73	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	29.44	747.8	30.10	764.5	68	20.0	79	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	28.99	736.3	29.93	760.2	69	20.6	80	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	29.28	743.7	29.95	760.7	64	17.8	63	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Memphis, Tennessee	28.30	718.8	30.00	762.0	70	21.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.72	754.9	30.06	763.5	66	18.9	73	NE	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Mobile, Alabama	29.27	743.4	29.97	761.2	67	19.4	79	S	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear	
Montgomery, Alabama	29.88	758.9	29.92	760.0	71.6	21.9	85	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
	29.77	756.1	30.00	762.0	67	19.4	79	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r —10.	CLOUDS. Direction Upper. From—	CLOUDS. Direction Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.14	740.1	30.12	765.0	58	14.4	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	23.93	607.8	30.29	769.4	39	3.9	81	N	15	6.7	.....	8k	8ks	Calm	N	0	0	Cloudy	
Nashville, Tennessee	29.54	750.3	30.06	763.5	68	20.0	74	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	29.99	761.7	30.11	764.8	61	16.1	77	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.03	762.7	30.08	764.0	63	17.2	67	N	7	3.1	.....	1k	0	N	.....	Inap	Inap.	Clear	
New Orleans, Louisiana	29.81	757.2	29.86	758.4	77	25.0	69	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.02	762.5	30.07	763.8	60	15.6	77	N	12	5.4	.....	5k	0	NE	.....	0	0	Fair	
New York, New York	29.94	760.5	30.12	765.0	65	18.3	67	NE	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.01	762.2	30.06	763.5	67	19.4	69	N	10	4.5	.....	5ck	0	NW	.....	0.03	0.8	Fair	
North Platte, Nebraska	26.85	682.0	29.25	742.9	70	21.1	42	SW	4	1.8	.....	10k	0	W	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.55	708.2	29.89	759.2	55.0	12.8	87	S	8	3.6	.....	.....	10ks	.....	W	0.03	0.8	Threatening	
Omaha, Nebraska	28.68	728.5	29.71	754.6	76	24.4	64	SE	8	3.6	.....	8k	2s	SW	Calm	0	0	Cloudy	
Oswego, New York	29.80	756.9	30.11	764.8	61	16.1	82	S	3	1.3	.....	2c	0	W	.....	0	0	Fair	
Pembina, Dakota	28.95	735.3	29.74	755.4	60	15.6	77	E	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Philadelphia, Pa	30.06	763.5	30.12	765.0	62	16.7	72	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.58	725.9	30.27	768.8	78	25.6	69	Calm	0	0	.....	0	2ks	.....	Calm	0.05	1.3	Fair	
Pike's Peak, Colorado	17.95	456.0	30.16	766 1	38	3.3	54	SW	32	14.3	.....	1k	Haze	SW	.....	0	0	Hazy	
Pilot Point, Texas	29.10	739.1	29.87	758.7	67	30.(	68	SE	13	5.8	.....	5k	5s	S	SE	0	0	Cloudy	
Ploche, Nevada	23.87	606.3	29.04	752.8	53	11.7	14	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.32	744.7	30.13	765.3	56	13.3	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Huron, Michigan	29.42	747.3	30.06	763.5	64	17.8	76	SW	5	2.2	.....	5ck	Haze	W	.....	0	0	Fair	
Portland, Maine	30.08	764.0	30.12	765.0	58	14.4	82	N	8	3.6	.....	1k	0	Calm	.....	0	0	Clear	
Portland, Oregon	29.92	760.0	29.99	761.7	56.3	13.7	79	S	2	0.9	.....	.....	10s	.....	SW	Inap	Inap.	Cloudy	
Prescott, Arizona	24.69	627.1	30.05	763.3	71	21.7	52	SW	5	2.2	.....	0	0	.....	.....	0.68	17.3	Clear	
Punta Rassa, Florida	29.50	756.9	29.82	757.4	76	24.4	86	SE	12	5.4	.....	.....	10s	.....	SE	4.52	114.8	Cloudy	
Red Bluff, California	29.02	762.3	29.97	761.2	55	12.8	81	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Rio Grande City, Texas	29.67	753.6	29.88	758.9	75	23.9	86	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.49	749.0	30.10	764.5	59	15.0	76	SW	3	1.3	.....	5k	2s	SW	SW	0	0	Cloudy	
Roseburg, Oregon	29.49	749.0	30.05	763.3	53.6	11.9	97	Calm	0	0	.....	.....	10ks	.....	Calm	0.47	11.9	Cloudy	
Sacramento, California	29.88	758.9	29.96	761.0	56	13.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.40	749.0	30.04	763.0	67	19.4	79	S	6	2.7	.....	0	5ks	.....	N	0	0	Fair	
St. Marks, Florida	29.88	758.9	29.90	759.4	73	22.8	76	NE	13	5.8	.....	1c	1s	E	Calm	0	0	Clear	
St. Paul, Minnesota	29.00	736.6	29.78	756.4	70	21.1	84	SE	16	7.2	.....	8ck	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	25.31	642.9	29.64	752 6	65	18.3	40	NW	14	6.3	.....	4k	0	SW	.....	0.06	1.5	Fair	
San Antonio, Texas	29.21	741.9	29.76	755.9	75	23.9	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.80	756.9	29.87	758.7	62	16.7	83	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.47	748.5	30.13	765.3	64	17.8	73	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	30.07	763.8	30.10	764.5	63	17.2	67	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.92	760.0	29.99	761.7	56	13.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	62	16.7	46	SE	5	2.2	.....	1c	0	N	.....	0	0	Clear	
Savannah, Georgia	29.89	759.2	29.98	761.5	71	21.7	75	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	69	20.6	80	E	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.01	762.2	30.04	763.0	65	18.3	84	N	12	5.4	.....	0	1ks	.....	N	0	0	Clear	
Socorro, New Mexico	25.35	643.9	29.42	747.3	59	15.0	43	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Springfield, Ill	29.41	747.0	30.06	763.5	67	19.4	79	S	6	2.7	.....	2k	8s	N	N	0	0	Cloudy	
Springfield, Massachusetts	29.99	761.7	30.12	765.0	62	16.7	77	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.91	683.5	29.91	759.7	70	21.1	53	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.10	764.5	30.16	766.1	58	14.4	94	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.42	747.3	30.09	764.3	64	17.8	83	SE	4	1.8	.....	8ck	Sm'e	W	.....	0	0	Cloudy	
Tucson, Arizona	27.38	695.4	29.92	760.0	82	27.8	52	S	6	2.7	.....	0	0	.....	.....	0	0	Cloudy	
Umatilla, Oregon	29.48	748.8	29.96	761.0	58.0	14.4	53	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.98	736.1	29.76	755.9	75	23.9	81	Calm	0	0	.....	0	5s	.....	NW	0	0	Fair	
Vicksburg, Mississippi	29.72	754.9	29.97	761.2	70	21.1	68	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.99	609.3	29.47	748.5	55	12.8	22	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.66	750.8	29.92	760.0	57	13.9	72	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.02	762.5	30.13	765.3	66	18.9	74	NE	4	1.8	.....	2k	0	NE	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.94	760.5	30.02	762.5	64	17.8	78	NE	12	5.4	.....	1k	0	NE	.....	0	0	Clear	
Winnemucca, Nevada	25.64	648.7	29.90	759.4	45	7.2	53	SW	5	2.2	.....	0	4s	.....	SW	0	0	Fair	
Wood's Holl, Mass.	30.01	762.2	30.05	763.3	61	16.1	77	NE	8	3.6	.....	.....	10ks	.....	NE	0	0	Cloudy	
Yankton, Dakota	28.40	721.3	29.61	752.1	68	20.0	79	SE	4	1.8	.....	10ck	0	SW	.....	0	0	Cloudy	
Yuma, Arizona	29.56	750.8	29.72	754.9	76	24.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.75	755.6	29.80	756.9	80	26.7	86	SE	3.6	1.6	.....	8c	4n	Calm	Calm	1.32	33.5	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	78	25.6	95	SE	18	8.0	.....	5c	5n	SE	.....	2.74	69.6	Heavy rain	Chas. Hasselbrunk.
Medellin, Colombia, S. A.	25.25	641.3	.....	.....	65.5	18.6	80	Calm	.....	.....	0	6k	8s;ks	.....	.....	0.30	7.6	.....	James Gall.
Nassau, W. I.	29.79	756.7	29.87	758.7	84	28.9	.....	E	.....	.....	2	.....	.....	.....	.....	0.50	12.7	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	82	27.8	75	E	.....	.....		0	5k	.....	.....	0	0	Clear	F. M. Everett.
Santiago de Cuba, W. I.	29.86	758.4	29.89	759.2	80	26.7	86	Calm	.....	.....		8cs	4n	.....	SE	Blank	Blank	.....	C. J. Hering.
St. Thomas, W. I.	29.67	751.1	29.68	751.3	82	27.8	75	SE	1	0.4	.....	2c	2ks	E	.....	0	0	Clear	Robert Mason.
York Factory, B. A.	29.93	760.2	29.96	761.5	38.0	3.3	100	W	14	6.3	.....	.....	10s	.....	W	1.20	30.5	Raining	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Colen an City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?); Fort Davis, 5,208 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft.,or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,936.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.600 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.64 in., or 168.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.00‡	762.0‡	.....	.....	76	24.4	91	NE	10	4.5	.....	.....	8	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡	.....	.....	79.5	26.4	84	SW	.....	.....	3	.....	8ck; s	.....	NW	0	0	.....	.....	Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.98‡	761.5‡	.....	.....	62	16.7	94	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, N. 23° 40′, W. 108° 03′	*. 29.79‡	756.7‡	.....	.....	81	27.2	83	SE	.....	.....	3	.....	10	.....	NW	0	0	Smooth	.....	Overcast	
Alliance, Spit Head, Eng.	29.57‡	751.1‡	.....	.....	61	16.1	94	W	.....	.....	3-4	.....	10	.....	W	.....	.....	.....	.....	Raining	
Ashuelot, Yokohama, Japan	29.89‡	759.2‡	.....	.....	81	27.2	87	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Colorado, New York, N. Y.	29.99‡	761.7‡	.....	.....	65	18.3	68	NNE	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Hazy	
Constellation, N. 37° 44′, W 76° 10′	30.08‡	764.0‡	.....	.....	67	19.4	74	N	.....	.....	5	.....	2	.....	N	0	0	.....	.....	Clear	
Constitution, Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡	.....	.....	64	17.8	94	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Enterprise, Cowes, England	29.57‡	751.1‡	.....	.....	61	16.1	94	SW	.....	.....	5	.....	10	.....	SW	.....	.....	Mod'ate	.....	Cloudy	
Essex, S 19° 46′, W. 38° 51′	30.21‡	767.3‡	.....	.....	72	22.2	85	E	.....	.....	2	.....	5	.....	E	.....	.....	Smooth	SE	Fair	
Franklin, Norfolk, Va.	30.03‡	762.7‡	.....	.....	68	20.0	74	NNE	.....	.....	.....	.....	2	.....	NE	0	0	.....	.....	Fair	
Hartford Rio de Janeiro, Brazil	30.29‡	769.4‡	.....	.....	69	20.6	75	ESE	.....	.....	4	.....	10	.....	SE	0	0	.....	.....	Cloudy	
Independence, Mare I'd. Navy Yard, Cal.	30.01‡	762.2‡	.....	.....	63	17.2	83	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Kearsarge, N. 46° 13′, W. 54° 30′	30.19‡	766.8‡	.....	.....	56	13.3	87	NNW	.....	.....	2	.....	8	.....	NNW	.....	.....	Smooth	.....	Fair	
Lackawana, Apia, Samoa Is.	†. 29.84‡	757.9‡	.....	.....	74	23.3	95	ESE	.....	.....	1	.....	8	.....	SE	.....	.....	Smooth	.....	Cloudy	
Michigan, Milwaukee, Wis.	29.93‡	760.2‡	.....	.....	68	20.0	95	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Cheefoo, China	29.90‡	759.4‡	.....	.....	78	25.6	100	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monongahela, N. 39° 36′, E. 142° 31′	29.85‡	758.2‡	.....	.....	76	24.4	68	S	.....	.....	5	.....	n	.....	.....	Mod'ate	Mod'ate	Light	S	D. clouds	
New Hampshire, Port Royal, S. C.	30.07‡	763.8‡	.....	.....	72	22.2	80	NE	24	10.7	.....	.....	1	.....	NE	0	0	.....	.....	Clear	
Onward, Callao, Peru	†. 29.99‡	761.7‡	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Chefoo, China	29.90‡	759.4‡	.....	.....	77	25.0	69	S	.....	.....	2	.....	0	.....	.....	.....	.....	Light	NNE	Clear	
Passaic, Washington, D. C.	30.11‡	764.6‡	.....	.....	65	18.3	89	N	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Iquique, Peru	30.01‡	762.2‡	.....	.....	60	15.6	71	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. S.W. Harbor, Mt. Desert, Me.	30.12‡	765.0‡	.....	.....	60	15.6	71	ENE	.....	.....	3	.....	2	.....	Calm	0	0	Smooth	.....	Misty	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.09‡	764.3‡	.....	.....	64	17.8	68	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Venice, Italy	30.07‡	763.8‡	.....	.....	79	26.1	74	SE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Fair	
Ranger, Yokohama, Japan	§. 30.10‡	764.5‡	.....	.....	82	27.8	87	SSW	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Richmond, Yokohama, Japan	29.90‡	759.4‡	.....	.....	81	27.2	87	SSW	.....	.....	2	.....	10	.....	S	0	0	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	29.81‡	757.2‡	.....	.....	74	23.3	100	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	Fair	
Santee, Annapolis, Md.	30.14‡	765.5‡	.....	.....	65	18.3	73	ENE	.....	.....	2	.....	5	.....	NE	0	0	.....	.....	Fair	
Saratoga, New London, Conn.	30.10‡	764.5‡	.....	.....	58	14.4	100	N	.....	.....	4	.....	2	.....	SW	Light	Light	.....	.....	D. clouds	
St. Louis, League Island, Pa	30.11‡	764.8‡	.....	.....	66	18.9	89	NE	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Thames river, Eng.	29.56‡	750.8‡	.....	.....	63	17.2	94	S	.....	.....	1-4	.....	10	.....	S; W	0.02	0.5	.....	.....	Rainy	
Tuscarora, Mare Isl. Navy Yard, Cal.	29.97‡	761.2‡	.....	.....	61	16.1	77	NW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Hazy	
Vandalia, Navy Yard, Pensacola, Fla.	29.89‡	759.2‡	.....	.....	75	23.9	77	NNE	.....	.....	3	.....	5	.....	NE	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	30.06‡	763.5‡	.....	.....	58	14.4	76	N	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, Portsmouth, N. H.	30.06‡	763.5‡	.....	.....	64	17.8	??	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Wyoming, Constantinople, Turkey	30.04‡	763.0‡	.....	.....	75	23.9	68	NNW	.....	.....	3	.....	2	.....	N	.....	.....	Smooth	N	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima, Panama Bay, Panama.†		29.84‡	760.5‡	83	28.3	87	S			1		4		S	0.09 in. or 2.3 mm	Small	SSE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitaker.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		29.78‡	756.4‡				S			6		10		SW				Heavy rain.	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Parry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China†.		29.65‡	753.1‡	84	28.9	92	SE			3		2cs			Heavy			Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 37° 54', W. 145° 27'.†.		30.46‡	773.7‡	66	18.9		Var.			2		k		NW	0	Mod'ate Cross		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 52° 35', E. 8° 21'.		29.56‡	750.8‡	62	16.7	94	SW			6		10		SW		Mod'ate	SW	Drizzling	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeifer, N. 40° 22', W. 67° 44'		29.90‡	759.4‡	61.0	16.1	??	E			6		10		ENE	16h'rs	Long	E	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 27', E. 4° 59'.		29.54‡	750.3‡				W			6		8		W		6	W	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. N. 44° 01', W. 56° 46'		30.19‡	766.8‡	56	13.3	87	ENE			6		2		NE	0	Mod'ate	NE	Clear	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 36° 20', W. 75° 27'		30.01‡	762.2‡	68	20.0	74	N	15	6.7			2k		N	0	Rough	NNE	Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 38° 00', W. 71° 00'		29.92‡	760.0‡				NE			5		10		NE	0	Rough	ENE	Threatening	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 20° 00', W. 40° 12'		30.12‡	765.0‡	79.5	26.4	86	ENE			5		6				2	E	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.																			

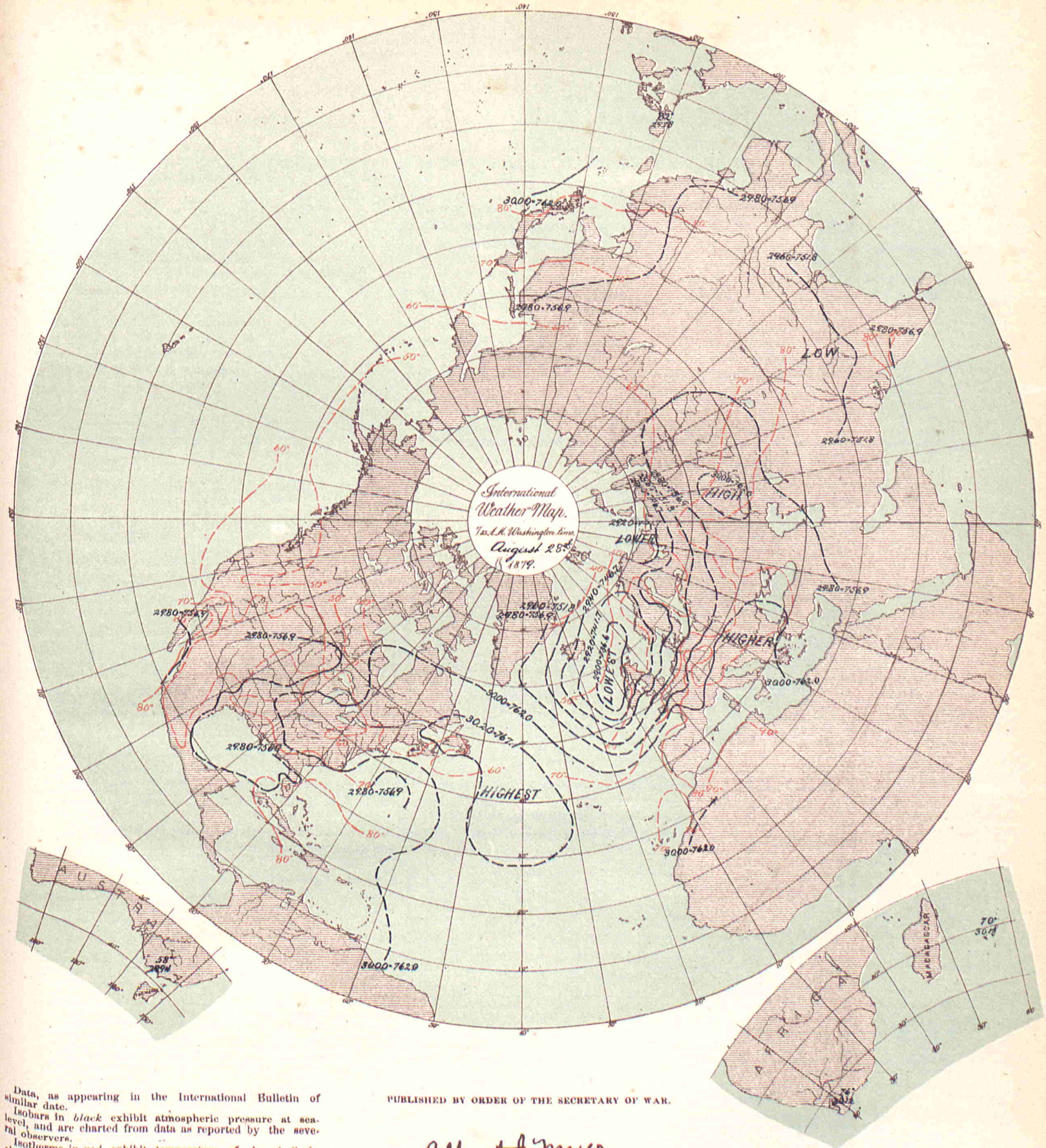
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the use of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.14	765.5	70.3	21.3	87	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.01	762.3	85.1	29.5	77	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.95	760.8	66.7	30.4	65	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Tourilliere.
La Calle	.....	.....	30.02	762.4	84.2	29.0	78	ENE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.16	766.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.3	90.1	32.5	21	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.09	764.2	91.0	32.8	34	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	73.0	22.8	39	SSW	.....	.....	5	.....	5	.....	.....	Inap.	Inap.	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.08	763.9	91.0	32.8	26	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.04	763.1	102.6	39.2	27	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.47	748.6	29.98	761.8	63.1	28.4	59	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.18	741.1	29.90	759.4	86.0	30.0	41	SW	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.11	739.4	29.96	760.9	71.8	22.1	82	S	.....	.....	3	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.80	731.6	29.99	761.7	79.0	26.1	57	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.71	729.2	30.06	763.4	82.8	28.2	40	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.66	727.9	29.92	759.9	82.4	28.0	81	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.95	735.2	29.87	758 8	80.4	26.8	59	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Dr. T. Staneckt.
Pola	29.97	761.2	30.08	763.9	85.3	29.6	52	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.64	752.8	30.09	764.2	84.2	29.0	46	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.75	755.7	30.01	762.3	81.9	29.4	39	Calm	.....	.....	0	.....	2	.....	.....	Blank	Blank	.....	Karl Stancel.
Trieste	29.98	761.5	30.08	764.1	82.4	28.0	58	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.29	743.9	30.01	762.2	88.0	31.1	36	W	.....	.....	2	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.22	742.2	29.31	744.5	62.3	16.8	.....	W	11	4.9	.....	.....	8	.....	.....	0.146	3.71	D. clouds....	W. Boswell.
Ardrossan	29.43	747.5	29.45	748.0	55	12.8	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	Raining.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.39	746.5	29.61	752.1	56.0	13.3	.....	W	11	4.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.62	752.3	59.7	15.4	.....	WSW	40	17.9	.....	.....	8	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	.....	.....	29.61	752.1	57.0	13.9	.....	WSW	54	24.1	.....	.....	10	.....	.....	.....	.....	Raining.....	Thomas Mackereth.
Bradford, Yorkshire	29.20	741.7	29.60	751.8	58.8	14.9	.....	NW	.....	.....	4	.....	6	.....	.....	0.29	7.4	D. clouds....	J. McLandsborough.
Bridgetown (Barbadoes)	30.00	762.0	30.02	762.5	84.5	29.2	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.65	753.1	29.74	755.4	67.0	19.4	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	29.73	755.1	67.0	19.4	.....	SW	.....	.....	8	.....	7	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.68	753 9	29.81	757.2	63.6	17.6	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper. R. E.
Donaghadee	29.51	749.5	29.55	750.6	61	16.1	.....	WNW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.84	757.9	29.87	758.7	62	16.7	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	¾ clouded..	J. Costello.
Falmouth, Observatory	29.69	754.1	29.91	759.7	60.7	15.9	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	756.4	30.01	762.2	76	24.4	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Drizzling....	
Galway, Queen's College	.....	.....	29.69	754.1	60	15.6	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.02	762.5	85.8	29.6	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.23	742.4	29.44	747.8	66.9	13.8	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [O.
Great Yarmouth	29.69	754.1	29.69	754.1	64	17.8	.....	WSW	.....	.....	5	.....	4	.....	.....	.....	.....	Squally.....	G. T. Watson.
Greenwich, Royal Obs'y	29.64	752.8	29.81	757.2	63.2	17.3	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	The Staff, for G.B.Airy.
Guernsey	29.74	755.4	29.95	760.7	63	17.2	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	Dr. S.E.Hoskins,F.R.S.
Helston	29.57	768.7	29.99	761.7	63	17.2	.....	SW	.....	.....	6	.....	4k	.....	.....	0.05	1.3	Showery	M. P. Moyle.
Holyhead	29.68	753.9	29.70	754.4	59	15.0	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	D clouds....	John Tilston.
Jersey	29.72	754.9	30.01	762.2	62:1	16.7	.....	WSW	.....	.....	6	.....	7	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	29.78	756.4	29.82	757.4	63.3	17.4	.....	SW	22	9. 8	.....	.....	8	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester, Museum	29.43	747.5	29.68	753.9	63.9	17.7	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.96	761.0	30.03	762.7	82.6	28.1	.....	W	.....	.....	2	3c	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.21	741.9	29.30	744.2	59	15.0	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.94	760.5	83.6	28.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	C. S. Duncombe.
Nottingham, Observatory	29.49	749.0	29.68	753.9	64.8	18.2	.....	SW	.....	.....	6	.....	6ck;kd	.....	sw;WSW	0.005	0.13	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.18	741.1	29.69	754.1	59.5	15.4	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.78	756.4	62	16.7	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.82	757.4	29.88	758.9	63.5	17.5	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.72	754.9	29.84	757.9	58	14.4	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded..	Wm. Kennedy.
Saint Ann's Head	29.63	752.6	29.79	756.7	58	14.4	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.22	742.2	55	12.8	.....	W	28	12.5	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.97	761.2	30.03	762.7	85.0	29.4	.....	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	Serg't.W. H.Lyne.
Sheffield	29.37	746.0	29.64	752.8	61.8	16.6	.....	SW	.....	.....	6	.....	8	.....	.....	0.03	0.8	Overcast.....	W. F. Cooper.
Silloth Rectory	29.46	748.3	29.50	749.3	58.2	14.6	87	W	.....	.....	8	.....	5	.....	.....	0.43	10.9	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.60	751.8	58.9	14.9	.....	SW	27	12.1	.....	.....	10	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	63.2	17.3	.....	W	.....	.....	4-6	.....	9	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.93	760.2	29.94	760.5	62	16.7	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.81	757.2	29.84	757.9	57.0	13.9	.....	W	20	8.9	.....	.....	6	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.07	763.8	30.11	764.8	76.5	24.7	.....	W	6.0	2.7	.....	0	0	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	FrancisAbbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.42	747.3	61.0	16.1	.....	SW	.....	.....	5	.....	6k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.99	761.7	30.16	766.6	72.0	22.2	84	SE	26.5	11.8	.....	.....	10	.....	ESE	0.09	2.3	Showery.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763 0	52.3	11.3	78	SW	10	4.5	.....	.....	10	.....	.....	0	0	Gloomy.....	R. L. J. Ellery.
Monach Lt-house(Hebrides)	.....	.....	29.40	746.7	.....	.....	.....	NNW	.....	.....	6	3	5	NW	.....	0.30	7.6	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
ColesbergBridge, Cape Col	25.98	659.9	.....	.....	69.5	20.8	.....	WNW	.....	.....	.....	5k	2k	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 05′ E. 28° 15′	.....	.....	30.08‡	764.0‡	78.5	25.8	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	Squally.....	Capt. W. J. L. Wharton.
Gordon Castle, N. 40° 20′, W. 71° 45′	.....	.....	30.10	764.5	63	17.2	.....	Calm	.....	.....	0	.....	0	.....	.....	2	ESE	Blue sky.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	67.6	19.8	88	SE			2		1cs			0.1	3.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.46	748.2	29.50	749.4	64.4	18.0	57	W			7		6					Raining	
Faröe	29.48	748.9	29.50	749.4	61.0	16.1	73	W			7		7						
Godthaab (Greenland)	30.01	762.2	30.05	763.3				SSW			4		10					Foggy	
Stykkisholm (Iceland)	29.66	753.3	29.70	754.4	43.3	6.3	52	W			4		0						
Thorshavn (Faröe)	29.32	744.6	29.35	745.5	49.1	9.5	64	N			4		7						
Vestervig	29.22	742.1	29.33	744.9	57.6	14.2	84	SW			7		9					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.6	30.07	763.6	65.8	18.8	60	SW			1		8ks		WSW	0.31	8.	Very cloudy	Collignon, Director.
Amiens, Normal School	29.86	758.4	29.97	761.1	70.9	21.6	59	SSW			5		8		NE	0.28	7.	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.69	754.2	29.94	760.5	66.4	19.1	49	WSW			5				WNW	0.209	5.3		Klein, Commandant.
Avignon, Normal School	29.98	761.5	30.06	763.5	84.2	29	58	SW			1		0			0	0	Very clear	Giraud, Director.
Par-sur-Seine	29.52	749.9	30.07	763.7	67.8	19.9	61	SW			1		10		SW	0.004	0.1	Covered	G. Saillard, Director.
Beauvais, Normal School	29.72	755.0	29.98	761.5	67.3	19.6	53	W			3		8		WSW	0.236	6.0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.22	742.2	30.08	764.0	76.1	24.5	67	SSW			3		10	NE		0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.4	30.16	766.1	80.6	27	63	SW			1		0			0	0	Clear	Mariot, Director.
Bourges, Normal School	29.48	748.9	30.02	762.6	67.1	19.5	87	W			1		n	WNW	SW	0.020	0.5		M. Gence, Director.
Brest, Naval Observatory	29.72	755.0	29.97	761.1	67.3	19.6	77	W			2		6		SW	0.335	8.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.61	752.1	30.00	762.0	82.8	28.2	48	ESE			1		0			0	0	Clear	September, Dir.
Caen, Normal School	29.89	759.1	29.96	761.0	68.4	20.2	55	SW			3		5		W	0	0	Cloudy	M. Bletrin, Director.
Chartres, Normal School	29.45	748.1	30.04	763.0	69.8	21	51	WSW			2		6		N	0.020	0.5		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.3	30.05	764.2	68.7	20.4	61	SW			2		2					Slightlycl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.71	729.2	30.00	761.9	79.3	26.3	55	E			1		5		SW	0	0		Allnard, Director.
Commercy, Normal School	29.19	741.5	30.03	762.8	62.6	17	86	W			3		5k	W	W	0.04	1.	Light rain	Dr. Coulet, Director.
Commune de Gréasque*	29.02	737.0	30.16	766.0	85.5	29.7	39	SE			8		2		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.27	743.4	29.99	761.7	85.8	29.6	51	WNW			1	c				0	0		Ablard, Director
La Roche-sur-Yon, N. School	30.17	766.2	29.96	760.9	69.2	20.7	72	NW			1		8		SW	0.197	5.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.73	755.2	30.04	762 9	67.3	19.6	68	WSW			2		5		SW	0.157	4.75	Cloudy	Perrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.1	29.98	761.6	75.2	24	75	SW			1		2k	SW	SW	0	0	Partly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.1	30.07	763.7	66.6	19.2	70	WSW			2			SW	W	0.134	3.40		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.44	747.8	30.02	762.5	82.4	28.0	49	NE			1		2kn			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.79	756.7	30.05	763.3	84.8	28.6	57	S			1		1		S	0	0		E. Stephan, Director
Mirecourt, Normal School	28.97	735.8	29.98	761.6	66.7	19.3	72	W			1		10ks	SW	SW			Covered	Barbier, Director
Mont-Louis	25.97	636.7	30.38	771.7	80.6	27.0	26	S	15.0	6.7						0	0		M. Chave.
Nice	30.07	763.8	30.11	764.7	79.5	26.4	73	SSW			2		2	E	SSW	0	0	Slightlycl'dy	M. Boissiéré, Director.
Nismes, Normal School	29.83	757.7	29.98	761.5	90.3	32.4	53	S			1		5		S	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.74	755.5			67.8	19.9	61	SW			3		6k		SW	0.154	3.9		Marie Davy, Director
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.78	578.5			63.5	17.5		SW			3		1		SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	30.00	762 1	30.11	764.7	76.5	24.7	74	SE	5.6	2.5			10		NW	0.020	0.5	Foggy	Dr. Fines.
Privas, Normal School																			Cantier, Director.
Puy de Dome (Summit) Obs	25.36	644.0			59.0	15.0	84	SW			3		5			0	0		Allnard, Director.
Rochefort, Naval Obs'y	30.06	763.4	30.09	764.2	67.3	19.6	86	W			1		10		W	0.83	21.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.90	759.5	29.98	761.6	68.5	20.3	52	WSW			1		2		SW	0.346	8.8	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.96	761.0	29.99	761.8	66.7	19.3	57	WSW			3		8	WSW	WSW	0.372	9.46	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.86	758.4	30.03	762.7	68.7	20.4	61	W			2		7	WSW	WSW	0.012	0.3		E. Renou, Director.
Tarbes, Normal School	29.68	738.6	30.14	765.5	68.5	20.3	85	W			2		10			0	0	Covered	T. Huguet, Director
Toulouse, Observatory	29.49	749.7	30.12	765.0	77.7	25.4	63	E			1		1			0	0		M. Julier Mercadier.
Tours	29.86	758.4	30.06	763.4	71.6	22.0	63	W			1		8	W	W	0.083	2.1	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.54	750.2	30.03	762.7	66.6	19.2	66	W			2					0.105	2.66		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.35	745.4	30.02	762.5	86.0	30	49	SE			1		2		SE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.82	757.4	29.85	758.1	80.6	27										0	0		L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.85	758.3	29.88	759.0	79.2	26.2	94	ESE	7.2	3.2			1cs		W	0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,538.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10	Clouds. Amount. Upp'r 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.3	29.99	761.7	71.1	21.7	65	W	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	Prof. Dr. Hoh.
Berlin	29.69	754.2	29.86	758.4	69.4	20.8	53	SW	.....	.....	3	.....	7	.....	.....	0.071	1.8	.....	Prof. Dr. Arndt.
Breslau	29.41	747.0	29.94	760.4	72.1	22.3	74	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Drizzling	Royal University Ob's'y.
Carlsruhe	29.61	752.2	30.03	762.8	68.5	20.3	71	SW	.....	.....	3	.....	10	SW	.....	0.906	23.0	Raining	Albert Sens.
Cassel	29.35	745.4	29.95	760.8	71.1	21.7	43	W	.....	.....	4	.....	5	W	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	68.9	20.5	65	W	.....	.....	6	.....	7	.....	.....	0.39	10.	.....	Director Lose.
Emden	.....	.....	29.74	755.4	65.5	18.6	65	W	.....	.....	7	.....	8	.....	.....	0.480	12.2	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.5	29.99	761.7	68.0	20.0	.....	SW	.....	.....	2	.....	7	.....	.....	0.224	5.7	.....	Physical Society.
Freienwalde on the Oder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Friedrichshafen	28.62	726.9	29.99	761.7	75.9	24.4	65	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	29.70	754.4	29.77	756.1	64.0	17.8	74	WSW	.....	.....	7	.....	6k	.....	.....	0.217	5.5	Showery	Captain F. Hegemann.
Kiel	29.64	752.8	29.65	753.2	63.5	17.5	77	WSW	.....	.....	7	.....	7	.....	.....	0.405	10.27	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.61	752.0	29.69	754.0	67.5	19.9	70	W	.....	.....	6	.....	6	.....	.....	0 008	0.2	.....	Prof. E. Luther.
Köslin	.....	.....	29.70	754.4	66.2	19.0	.....	W	.....	.....	8	.....	8	.....	.....	0.256	6.5	.....	H. Müller.
Leipsic Observatory	29.50	749.4	29.91	759.7	72.3	22.4	45	WSW	.....	.....	4	.....	6	.....	.....	0.031	0.8	Stormy	Prof. Bruhns, Privy Counselor.
Memel	29.57	751.1	29.62	752.3	64.4	18.0	78	WSW	.....	.....	8	.....	1s	.....	.....	.....	.....	Squally	Skalweit.
Munich (München)	28.23	717.0	30.10	764.4	81.0	27.2	45	W	.....	.....	3	.....	0	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	29.69	754.1	29.71	754.5	70.2	21.2	60	WSW	.....	.....	5	.....	7	.....	.....	0.024	0.6	.....	A. Lothes.
Posen	29.64	750.4	29.82	757.4	71.6	22.0	58	W	.....	.....	6	.....	9	.....	.....	0.020	0.5	.....	Dr. Magener.
Strassburg (in Alsace)	29.52	749.9	30.06	763.5	69.8	20.9	70	N	.....	.....	2	.....	10	SW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.06	738.1	29.96	760.9	75.2	24.0	57	NW	.....	.....	5	.....	5	W	.....	0.028	0.7	.....	Prof. Dr. Schoder.
Treves (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg (Bavaria)	28.52	724.3	29.95	760.7	76.3	24.6	61	W	11	5	.....	....	4ck	S	WSW	.....	.....	.....	T. Hopfner.
Wustrow	29.65	753.0	29.67	753.6	62.4	16.9	75	WSW	.....	.....	6	.....	10s	.....	.....	0.059	1.5	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:6, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.1	30.06	763.5	87.6	30.9	.....	NE	.....	.....	3.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.61	749.6	29.66	750.9	83.5	28.6	75	WSW	17.0	7.6	.....	.....	4	SE	WSW	0	0	D. clouds	
Deesa	29.17	740.8	29.63	752.7	83.2	28.4	52	WSW	10.3	4.6	.....	.....	7.	.....	W	0.03	0.8	D. clouds	
Bombay	29.70	754.4	29.74	755.4	80.1	26.7	88	WSW	20.0	8.9	.....	.....	10	.....	SW	0.52	13.2	Overcast	
Poona	27.89	708.5	29.76	755.8	74.6	23.7	82	W	16.0	7.2	.....	.....	9	.....	W	0.01	0.3	Drizzling	
Lahore	28.78	730 4	29.57	751.0	87.0	30.6	60	NE	3.6	1.6	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.24	691.9	29.80	757 0	69.8	21.0	94	W	11.0	4.9	.....	.....	10	SW	SW	0.07	1.8	Overcast	
Roorkee	28.66	727.9	29.55	750 5	80.2	26.8	84	Calm	1.9	0.8	.....	.....	8	.....	.....	1.12	28.4	D. clouds	
Agra	28.96	735.4	29.52	749.7	78.7	25.9	91	S	4.5	2.0	.....	.....	10	.....	S	0	0	.....	
Nagpur	28.66	725.5	29.60	751.8	78.7	25.9	91	W	4.1	1.8	.....	.....	9	.....	E	0.43	10.9	Gloomy	
Lucknow	29.14	740.2	29.52	749.7	80.3	26.8	91	ESE	1.4	0.6	.....	.....	10	.....	.....	0.44	11.2	Overcast	
Allahabad	29.23	742.4	29.54	750.2	83.4	28.6	85	W	0.7	0.3	.....	.....	9	.....	W	0.41	10.4	D. clouds	
Patna	29.34	745 3	29.52	749.8	87.8	31.0	78	Calm	0.7	0.3	.....	.....	6	NE	NE	0	0	D. clouds	
Hazaribagh	27.54	699.5	29.53	750.1	78.8	26.0	87	Calm	4.5	2.0	.....	.....	4	.....	.....	0.32	8.1	Raining	
Cuttack	29.47	748.4	29.55	750.5	80.4	26.9	84	NE	2.0	0.9	.....	.....	8	.....	.....	0.56	14.2	Raining	
Calcutta (Alipore)	29.51	749.6	29.53	750.1	81.6	27.6	92	SSE	1.0	0.4	.....	.....	8	SE	.....	0	0	D. clouds	
Goalpara	29.15	740.3	29.53	750.6	84.8	29.3	72	ESE	2.9	1.3	.....	.....	9	.....	.....	0	0	D. clouds	
Chittagong	29.49	749.0	29.68	751.3	82.1	27.8	89	Calm	3.4	1.5	.....	.....	9	.....	.....	0	0	Gloomy	
Sibsagar	29.21	741.9	29.53	750.2	90.3	32.4	69	WSW	1.5	0.7	.....	.....	4	.....	.....	0	0	Blue sky	
Jubbulpore	28.21	716.6	29.57	751.2	76.8	24.9	93	E	4.9	2.2	.....	.....	10	.....	E	0	0	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to rend 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.0	30.08	764.0	61.5	27.5	58	SW	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.54	750.4	30.04	763.0	85.1	29.5	52	E	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.1	30.07	763.8	82.6	28.1	60	E	6.9	3.1	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.18	741.2	30.05	763.3	82.2	27.9	52	SE	3.1	1.4	.....	.....	4	S	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.92	759.9	30.10	764.5	77.2	25?1	70	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.20	716.2	30.02	762.6	79.5	26.4	53	NE	.....	.....	2	.....	0	ENE?	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.02	762.4	30.07	763.6	79.7	26.5	73	NE	9.8	4.4	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.83	757.6	30.07	763.8	86.0	30.0	39	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.00	761.9	30.08	764.0	78.4	25.8	72	S	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.91	759.7	30.08	764.0	86.7	30.4	52	SW	12.5	5.6	.....	.....	0	.....	.....	0.039	1.0	.....	Prof. P. S. Ferrari.
Lecce	29.83	757.6	30.07	763.8	83.6	28.6	45	NE	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cosenza	29.19	741.3	30.08	762.7	89.6	32.0	57	NE	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.90	759.5	30.09	764.2	101.7	38.7	70	SE	.....	.....	2	.....	4	S	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.84	757.9	30.05	764.2	79.5	26.4	68	ENE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.98	761.6	30.00	763.5	86.7	30.4	60	SE	4.9	2.2	.....	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.8	30.11	764.9	86.0	30.0	64	S	1.8	0.8	.....	.....	.....	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,460 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	78.2	25.7	87	NNE	6.4	2.8	.....	.....	6ck	.....	SW	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.1	29.93	760.2	79.0	26.1	93	WSW	0.3	0.1	.....	.....	2cs	.....	.....	0.170	4.32	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29 86	758.4	29.93	760.2	80.9	27.2	84	SE	3.4	1.5	.....	.....	10ks;s	.....	SSW	0	0	Cloudy	The Staff.
Wakayama	29.85	758.2	29.89	759.2	81.0	27.2	80½	SE	3.6	1.6	.....	.....	9ck;s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	24.96	634.0	29.95	760.7	68.1	14.5	77	N	.....	.....	1	.....	5	.....	SE	0	0	½ cloudy	Prof. L. Perez.
Leon	24.36	618.7	30.03	762.7	59.0	15.0	83	NW	.....	.....	1	0	0	.....	.....	0.21	5.4	Very clear	Prof. M. Leal.
Mexico, Central Obs'y	23.00	584.3	30.03	762.7	61.8	11.0	74	Calm	0	0	.....	0	2s	.....	.....	0.06	1.4	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	68.1	14.5	83	NW	.....	.....	1	2c	0	.....	.....	0.19	4 9	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.83	757.6	29.84	757.9	78.1	25.6	89	S	.....	.....	1	6	2	NW	NE	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.16	613.6	30.12	765.1	57.2	14.0	68	E	.....	.....	1	2	8	W	E	0	0	½ Cloudy	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.49	571.3	30.01	762.3	57.6	14.2	81	Calm	.....	.....	0	1cs	0	Calm	.....	0	0	Clear	A. Nuñez.
Puebla (Catholic Institute)	23.32	592.4	30.02	762.6	53.8	12.1	80	N	0.2	0.1	.....	.....	4ck	.....	S	0.56	14.3	½ Cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.54	750.3	29.83	757.6	78.1	25.6	95	E	.....	.....	1	.....	10n	.....	SW	Inap.	Inap.	Threatening	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.8	29.87	758.8	64.9	18.3	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.022	15.8	.....	
Groningen	29.68	753.9	29.74	755.3	63.0	17.2	.....	SW	.....	.....	5	.....	.....	.....	.....	0.268	7.2	.....	
Helder	29.72	754.9	29.72	754.9	62.2	16.8	.....	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.82	757.5	29.82	757.6	64.0	17.8	71	SW	.....	.....	6	.....	.....	.....	.....	0.717	18.2	.....	
Utrecht	29.81	757.2	29.86	758.4	64.9	18.3	67	WSW	.....	.....	6	.....	8	.....	.....	0.00	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	28.97	735.9	29.03	737.3	55.4	13.0	91	S	2.9	1.3	.....	.....	10	.....	.....	0.472	12.0	Raining.....	
Brönö	28.82	732.0	28.86	733.0	54.7	12.6	93	SW	9	4	.....	.....	10	.....	.....	.....	.....	Raining	
Christiania	28.88	733.6	29.02	737.1	61.3	16.3	72	SSW	11	5	.....	.....	9	.....	.....	0.020	0.5	.....	
Tromsö	28.92	734.5	28.96	735.6	58.3	14.6	59	SW	9	4	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.92	760.0	30.11	764.7	77.2	25.1	90	W	11.9	5.3	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.04	762.9	86.7	30.4	30	W	4.3	1.9	.....	.....	6	W	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.7	30.15	765.9	76.6	24.8	67	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.2	30.12	765.0	80.1	26.7	51	S	3.8	1.7	.....	.....	6	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.10	764.5	30.19	766.7	79.6	26.6	75	SW	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	J.C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A.J.deMattos. Mossamedes, Lower Guinea	.....	.....	D. clouds....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.	.....	.....	D. clouds....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J A. de Brito Capello	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	Overcast....	J.G. Felgo 2nd Lieut.
	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.42	747.3	29.83	757.6	74.5	23.6	70	WNW	11	5	.....	.....	8cks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.25	743.0	29.65	753.2	68.6	20.0	75	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Dorpat	29.07	738.4	29.30	744.3	64.6	18.1	63	WSW	20	9	.....	.....	7kn	.....	.....	.....	.....	Light rain...	Prof. Dr. Weilrauch.
St. Petersburg	29.11	739.5	29.13	739.9	63.0	17.2	88	SSW	20	9	.....	.....	7kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.27	743.4	29.87	758.7	77.9	25.5	53	WSW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.09	761.7	30.06	763.5	81.0	27.2	46	SSE	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.10	764.6	30.12	765.1	72.5	22.5	70	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.24	742.8	29.77	756.1	65.8	18.8	70	S	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.76	756.0	29.96	761.0	75.7	24.3	41	WNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.27	743.4	29.29	743.9	62.1	16.7	69	WSW	18	8	.....	.....	2ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.64	727.5	29.93	760.2	81.5	27.5	47	NE	4	2	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.01	762.2	29.93	760.1	80.2	26.8	68	S	9	4	.....	.....	8ks;n	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.38	746.2	29.82	757.5	82.0	27.8	38	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.55	750.6	29.81	757.2	67.3	19.6	76	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.91	734.4	29.82	757.5	77.9	25.5	35	SW	13	6	.....	1c	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.80	756.8	30.02	762.4	81.1	27.3	22	NNE	16	7	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.37	720.5	29.85	758.3	80.6	27	56	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.49	749.0	29.99	761.7	52.3	11.3	73	NW	0	0	.....	.....	8	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.82	757.5	30.11	764.8	49.6	9.8	58	SSW	2	1	.....	.....	2?	.....	.....	.....	.....	Raining?	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.76	756.0	29.91	759.6	76.1	24.5	70	SW	4	2	.....	1c	.....	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	29.73	755.1	29.83	757.6	70.6	21.5	87	Calm	0	0	.....	5c	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.93	760.2	30.03	762.8	82.0	27.8	72	ESE	1.6	0.72	.....	.....	5	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.02	762.4	30.07	763.8	83.8	28.8	67	NW	2.8	1.25	.....	4	2	NW	.....	0	0	Cloudy.....	Prof. Manuel de Naveira.
Burgos, Met. Obs'y	27.17	690.0	.....	.....	84.6	29.2	35	SW	5.2	2.34	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Osservatory	27.86	707.5	29.89	759.3	98.1	36.7	19	S	8.9	4.00	.....	1	0	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.84	757.8	29.98	761.4	98.6	37.0	33	NE	3.8	1.72	.....	0	0	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.9	30.05	763.3	64.8	18.2	95	NE	4.3	1.9	.....	.....	10	.....	.....	0.531	8.4	Misty.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.76	755.9	29.82	757.5	76.3	24.6	93	ESE	3.1	1.4	.....	3c	2k	W	SSW	0.553	14.8	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	755.9	29.81	757.2	80.6	27.0	90	SW	7.2	3.2	.....	.....	10n	.....	W	0.488	12.4	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.1	30.06	763.5	81.7	27.6	61	WNW	7.5	3.4	.....	0	1	.....	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.90	759.5	29.99	761.8	82.0	27.8	77	SE	3.6	1.63	.....	4s	2k	SE	SE	0	0	Clear.....	Leonardo deTejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 800 meters, or 2,622 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.08	737.8	29.07	738.3	57.2	14.0	.....	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	28.87	733.4	28.93	734.7	61.5	16.4	68	SW	.....	.....	4	.....	5	.....	.....	0.043	1.1	.....	
Hernosand	28.95	735.4	29.00	736.7	64.8	18.2	54	WSW	.....	.....	4	.....	3	.....	.....	0.010	15.5	.....	
Stockholm	29.03	737.3	29.21	741.8	59.0	15.0	88	SW	.....	.....	6	.....	10	.....	.....	0.169	4.3	.....	
Wisby	29.27	743.5	29.33	745.0	67.3	19.6	55	W	.....	.....	7	.....	7	.....	.....	0.272	6.9	.....	
Sub-Series.																			
Upsala	29.04	737.7	29.13	739.9	64.6	18.1	60	WSW	17.0	7.6	.....	.....	8	.....	W	0.023	0.58	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.6	29.00	761.8	83.5	28.6	42	S	.....	.....	5	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.45	722.6	30.01	762.2	78.4	25.8	64	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, 0 mm.; Thermometer, +8.1 Cent.; Relative Humidity, —16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.12	765.0	70.8	24.9	56	N	27	12.0	.....	.....	3	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.19	766.6	83.5	28.6	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.69	754.1	29.80	757.0	86.9	30.5	60	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.99	761.7	30.05	763.3	53	11.7	96	N	5	2.2	.....	.....	10ks	.....	NE	.0	0	Cloudy	G. A. Bain.
Charlottetown, P. E. Island	29.98	761.5	30.02	762.5	56	13.3	94	N	8	3.6	.....	.....	10n	.....	.....	0.165	4.19	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.80	756.9	29.98	761.5	65.1	18.4	85	W	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.91	759.7	30.07	763.8	54	12.2	90	NW	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.00	762.0	30.02	762.5	53	11.7	90	E	1	0.4	.....	2cs	0	Calm	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.98	761.5	30.05	763.3	54.0	12.2	93	W	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.80	731.5	29.56	750.8	64	17.8	89	E	8	3.6	.....	2c	Haze	W	W	0	0	Fair	James Stewart.
Granton, Ontario	29.01	736.8	30.05	764 0	65	18.3	100	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.78	756.4	29.91	759.7	55	12.8	98	N	6	2.7	.....	.....	10n	.....	NE	1.003	25.48	Heavy rain	F. Allison, M. A.
Hamilton, Ontario	29.73	755.1	30.08	764.0	67.7	19.8	82	SW	.....	.....	3	.....	.....	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.70	754.4	30.03	762.7	60	15.6	95	NE	4	1.8	.....	.....	Fog	.....	NE	0.37	9.4	Foggy	S. Woods, M. A.
Little Glace Bay, N. S	29.93	760.2	29.96	761.0	68.4	14.7	98	SE	18	8.0	.....	.....	10n	.....	.....	0	0	Threatening	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.80	756.9	29.99	761.7	64	17.8	84	W	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.37	746.0	30.05	763.3	61	16.1	99	Calm	0	0	.....	.....	Fog	.....	E	0.29	7.4	Foggy	Rev. R. Mosley.
Peterboro, Ontario	29.28	742.4	30.07	763.8	63.2	17.3	97	Calm	.....	.....	0	.....	Fog	.....	.....	0.32	8.1	Dense fog	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.07	763.8	68	20.0	90	NW	5	2.2	.....	10k	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.87	758.7	29.92	760.0	58.5	14.7	.....	SE	10	4.5	.....	.....	.....	.....	.....	0.60	15.2	Raining	Peter Grant.
Port Stanley, Ontario	29.45	748.0	30.07	763.8	68	20.0	90	W	7	3.1	.....	.....	10ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762.2	57	13.9	94	E	.....	.....	3	.....	10n	.....	E	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.05	763.3	59	15.0	94	N	3	1.3	.....	.....	Fog	.....	.....	0.41	10.4	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.94	760.5	29.99	761.7	56	13.3	80	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.84	757.9	30.01	762.2	55	12.8	80	N	9	4.0	.....	0	7ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.07	763.8	64	17.8	98	SE	6	2.7	.....	.....	8ks	.....	NE	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.83	732 3	30.07	763.8	66.2	19.0	92	Calm	0	0	.....	2ck	5s	N	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.96	761.0	30.00	762.0	57	13.9	90	E	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.69	754.1	30.06	763.5	65	18.3	94	N	3	1.3	.....	6ck	5ks	N	N	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	29.59	750.2	29.92	760.0	55.0	12.8	100	NE	4	1.8	.....	.....	10n	.....	.....	3.13	79.5	Raining	Prof. John E. Oram.
Woodstock, Ontario	29.03	737.3	30.06	763.5	67.9	19.9	84	W	5	2.2	.....	4ck;cs	0	NW;W	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	30.08	764.0	30.33	770.4	58.0	14.4	76	SW	.....	.....	.....	5k	5s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.82	757.4	30.05	763.3	65	18.3	78	S	4	1.8		5k	Haze	W		0	0	Fair	
Alpena, Michigan	29.39	746.5	30.01	762.2	67	19.4	89	W	2	0.9		5cs	Haze	NW		0	0	Fair	
Atcha, Aleutian Is, Alaska					47	8.3	100	W	22	9.8			10s		W	0	0	Cloudy	
Atlanta, Georgia	28.98	736.1	30.10	764.5	62	16.7	83	NE	9	4.0		0	0			0	0	Clear	
Atlantic City, New Jersey	30.11	764.8	30.13	765.3	66	18.9	89	W	8	3.6		5c	0	N		0	0	Fair	
Augusta, Georgia	29.98	761.5	30.18	766.6	69	20.6	65	NE	1	0.4		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	30.11	764.8	30.16	766.1	66	18.9	79	SE	2	0.9		Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.09	764.3	30.11	764.8	66	18.9	79	SW	12	5.4		5ck	Haze	N	Calm	0	0	Fair	
Bismarck, Dakota	27.86	707.6	29.72	754.9	71	21.7	75	NW	12	5.4		10cs	0	Calm		Inap.	Inap.	Cloudy	
Boerne, Texas	28.51	724.1	29.80	756.9	61	16.1	82	NW	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.31	693.7	30.27	768.8	48	8.9	78	S	2	0.9		0	8s		W	Inap.	Inap.	Fair	
Boston, Massachusetts	29.90	759.4	30.05	763.3	65	18.3	68	W	2	0.9		1ck	0	NW		0	0	Clear	
Brackettville, Texas	28.79	731.3	29.78	756.4	70	21.1	90	NE	2	0.9		0	0			0	0	Clear	
Breckenridge, Minnesota	28.65	727.7	29.68	753.3	68	20.0	74	SW	13	5.8		5ck	0	S		0	0	Fair	
Brownsville, Texas	29.77	756.1	29.81	757.2	75	23.9	90	E	1	0.4			10ks		E	0	0	Cloudy	
Buffalo, New York	29.37	746.0	30.04	763.0	69	20.6	80	W	8	3.6		2ck	Haze	NW	Calm	0.24	6.1	Hazy	
Burkes, Arizona					70	21.1	28	N			1	0	0			0	0	Clear	
Burlington, Vermont	29.74	755.4	30.02	762.5	66	18.9	74	S	4	1.8		2ck	2ks	W	W	0.01	0.3	Fair	
Cairo, Illinois	29.79	756.7	30.18	766.6	70	21.1	75	Calm	0	0		0	0			0	0	Clear	
Campo, California																			
Cape Hatteras, N. Carolina	30.13	765.3	30.14	765.5	68	20.0	79	NE	18	8.0		8k	0	NE		0	0	Cloudy	
Cape Henry, Virginia	30.17	766.3	30.19	766.8	67	19.4	64	NW	8	3.6		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.11	764.8	30.12	765.0	67	19.4	84	NE	24	10 7		0	0			0	0	Clear	
Cape May, New Jersey	30.11	764.8	30.14	765.5	66	18.9	84	SW	16	7.2		0	0			0	0	Clear	
Castroville, Texas	29.15	740.4	29.83	757.7	69	20.6	75	NW	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	30.03	762.7	30.08	764.0	68	20.0	74	NE	14	6.3		5c	0	W		0	0	Fair	
Charlotte, North Carolina	29.35	745.5	30.15	765.8	67	19.4	74	E	6	2.7		0	Haze		Calm	0	0	Clear	
Chattanooga, Tennessee	29.38	746.2	30.17	766.3	66	18.9	79	NE	4	1.8		0	Sm'e		Calm	0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	53	11.7	19	W	26	11.6		0	0			0	0	Clear	
Chicago, Illinois	29.44	747.8	30.10	764.5	71	21.7	71	SW	7	3.1		5ck	Haze	Calm		0	0	Fair	
Cincinnati, Ohio	29.56	750.8	30.21	767.3	65	18.3	91	SE	1	0.4			Fog		Calm	0	0	Foggy	
Cleveland, Ohio	29.43	747.5	30.13	765.3	70	21.1	66	SW	8	3.6		1ck	Haze	W	Calm	0	0	Clear	
Coleman City, Texas	28.18	715.8	29.79	756.7	69	20.6	61	NW	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.35	745.5	30.18	766.6	63	17.2	83	N	1	0.4		0	Sm'e		Calm	0	0	Smoky	
Concho, Texas	28.06	712.7	29.69	754.1	66	18.9	64	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.52	749.8	29.98	761.5	67	19.4	84	E	1	0.4		0	1ks		Calm	0	0	Clear	
Davenport, Iowa	29.48	748.8	30.10	764.5	68	20.0	84	SW	6	2.7		Haze	0	Calm		0.06	1.5	Clear	
Deadwood, Dakota	25.31	642.9			58	14.4	58	Calm	0	0			10s		W	0	0	Cloudy	
Decatur, Texas	28.86	733.5	30.00	762.0	80	26.7	59	S	12	5.4		0	0			0	0	Clear	
Denison, Texas	29.22	742.2	29.99	761.7	68	20.0	84	Calm	0	0		0	0			0	0	Clear	
Denver, Colorado	24.75	628.6	29.97	761.2	70	21.1	36	N	1	0.4		0	0			0	0	Clear	
Des Moines, Iowa	29.15	740.4	30.00	762.0	70	21.1	80	SW	3	1.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Detroit, Michigan	29.45	748.0	30.10	764.5	67	19.4	79	SW	6	2.7		2cs	Haze	Calm	Calm	0	0	Clear	
Dodge City, Kansas	27.43	696.7	29.62	752.3	67	19.4	69	S	12	5.4		0	0			0	0	Clear	
Dubuque, Iowa	29.37	746.0	30.04	763.0	74	23.3	63	S	8	3.6		5ck	Haze	S	Calm	0.19	4.8	Fair	
Duluth, Minnesota	29.17	740.9	29.81	757.2	65	18.3	89	NE	4	1.8		0	0			0	0	Clear	
Eagle Pass, Texas	29.15	740.4	29.86	758.4	72	22.2	76	SE	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.92	760.0	29.99	761.7	57	13.9	75	N	5	2.2		2c	Haze	Calm	Calm	0	0	Clear	
Edinburg, Texas																			
El Paso, Texas	26.18	665.0			70	21.1	66	S	3	1.3		2k	0	S		0	0	Fair	
Erie, Pennsylvania	29.39	746.5	30.08	764.0	71	21.7	75	SW	6	2.7		8k	Haze	NW	Calm	0	0	Cloudy	
Escanaba, Michigan	29.33	745.0	29.96	761.0	70	21.1	85	SW	5	2.2		0	Haze		SW	0	0	Hazy	
Florence, Arizona	26.32	719.3	29.92	760.0	84	28.9	44	W	1	0.4		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.68	703.1	29.44	747.8	56	13.3	87	NW	17	7.6			10s		NW	0.06	1.5	Cloudy	
Fort Custer	26.75	679.4						W	5	2.2			10n		W	0.47	11.9	Light rain	
Fort Davis, Texas	25.22	640.6	30.18	766.6	57	13.9	63	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.52	749.8	30.04	763.0	71	21.7	71	E	6	2.7		0	0			0	0	Clear	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	69	20.6	56	NE	4	1.8		0	0			0.07	1.8	Clear	
Fort Griffin, Texas	28.75	730.2	29.99	761.7	66	18.9	69	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.31	693.7			57	13.9	57	SW	1	0.4		5k	0	W		1.13	28.7	Fair	
Fort McKavett, Texas	27.73	704.3	29.58	751.3	67	19.4	69	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.88	758.9	68	20.0	70	E	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.85	707.4			66	18.9	84	W	10	4.5		2c	5ks	Calm	W	0	0	Cloudy	
Fort Verde, Arizona					59	15.0	54	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.16	715.3	29.65	753.1	75	23.9	56	Calm	0	0		0	0			0	0	Clear	
Galveston, Texas	29.86	758.4	29.90	759.4	76	24.4	86	NE	16	7.2		5ck	0	NE		0	0	Fair	
Graham, Texas	28.91	734.3	29.93	760.2	69	20.6	84	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.47	748.5	30.10	764.5	73	22.8	76	SW	13	5.8		0	2s		Calm	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	29.04	737.6	29.95	760.7	64	17.4	78	SE	6	2.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.40	746.7	30.16	766.1	66	18.9	84	Calm	0	0		0	0			0	0	Clear	
Indianola, Texas	29.86	758.4	29.89	759.2	77	25.0	77	NE	20	8.9		0	0			0	0	Clear	
Jacksboro, Texas	28.88	733.5	29.97	761.2	72	22.2	71	E	2	0.9		0	0			0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.98	761.5	76	24.4	86	NE	5	2.2			10s		NE	0.57	14.5	Cloudy	
Keokuk, Iowa	29.46	748.3	30.05	763.3	68	20.0	90	S	2	0.9		0	Fog		Calm	0	0	Clear	
Key West, Florida	29.80	756.9	29.84	757.9	79	26.1	87	SE	5	2.2		0	8ks		E	0.45	11.4	Cloudy	
Kittyhawk, North Carolina	30.08	764.0	30.11	764.8	66	18.9	84	NE	20	8.9		0	5s		NE	0	0	Fair	
Knoxville, Tennessee	29.22	742.2	30.22	767.6	62.5	16.9	78	NE	2	0.9		0	Sm'e			0	0	Clear	
La Crosse, Wisconsin	29.24	742.7	29.94	760.5	74	23.3	68	S	3	1.3		2c	0	Calm		0	0	Clear	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	63	17.2	47	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.48	748.8	29.81	757.2	80	26.7	55	E	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.21	741.9	30.02	762.5	71	21.7	71	S	3	1.3		0	0			0	0	Clear	
Little Rock, Arkansas	29.78	756.4	30.13	765.3	68	20.0	90	Calm	0	0		0	0			0	0	Clear	
Los Angeles, California	29.48	748.8	29.82	757.4	64.6	12.2	70	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.63	752.6	30.18	766.6	66	18.9	84	NE	1	0.4		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.52	749.8	30.19	766.8	67	19.4	79	Calm	0	0		0	Fog		Calm	0	0	Clear	
Madison, Wisconsin	29.08	738.6	30.02	762.5	71	21.7	80	S	11	4.9		8cs	0	W		0	0	Fair	
Marquette, Michigan	29.23	742.4	29.90	759.4	68	20.0	70	SE	4	1.8		0	5s		SE	0	0	Fair	
Mason, Texas	28.35	720.1	30.06	763.5	66	18.9	74	SE	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	29.80	756.9	30.13	765.3	69	20.6	74	E	5	2.2		0	Sm'e		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.35	745.5	30.05	763.3	70	21.1	75	SW	13	5.8		5cs	0	Calm		0	0	Fair	
Mobile, Alabama	29.94	760.5	29.98	761.5	71	21.7	85	NE	8	3.6		0	0			0	0	Clear	
Montgomery, Alabama	29.85	758.2	30.08	764.0	66	18.9	78	NE	4	1.8		8k	0	SE		0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Upper. 0—10	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.21	741.9	30.18	766.6	62	16.7	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.90	607.0	30.26	768.6	44	6.7	100	NW	18	8.0	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.65	753.1	30.18	766.6	66	18.9	84	NE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut	29.95	760.7	30.36	763.5	71	21.7	76	SW	4	1.8	.....	5ck	Haze	W	Calm	0	0	Fair	
New London, Connecticut	30.03	762.7	30.08	764.0	64	17.8	68	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Orleans, Louisiana	29.86	758.4	29.92	760.0	78	25.6	95	NE	16	7.2	.....	0	2s	.....	NE	0	0	Fair	
Newport, Rhode Island	30.03	762.7	30.08	764.0	62	16.7	72	NE	1	0.4	.....	2c	Haze	N	.....	0	0	Fair	
New York, New York	29.90	759.4	30.08	764.0	63	17.2	83	SW	6	2.7	.....	5ck	Haze	W	Calm	0	0	Fair	
Norfolk, Virginia	30.13	765.3	30.19	766.8	67	19.4	79	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.94	684.3	29.55	745.5	72	22.2	42	S	24	10.7	.....	2ck	0	W	.....	0	0	Clear	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	55.6	12.8	97	W	1	0.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Omaha, Nebraska	28.88	733.3	29.88	758.9	72	22.2	67	S	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear	
Oswego, New York	29.73	755.1	30.04	763.0	66	18.9	84	SW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Pembina, Dakota	28.69	728.7	29.47	748.5	66	18.9	95	SE	10	4.5	.....	0	5s	.....	Calm	0	0	Fair	
Philadelphia, Pa	30.06	763.5	30.11	764.8	63	17.2	94	SW	8	3.6	.....	5k	5s	N	SW	0	0	Cloudy	
Phœnix, Arizona	28.62	726.9	30.34	770.6	70	21.1	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	30	−1.1	57	SW	28	12.5	.....	.....	Fog	.....	SW	0.05	1.3	Foggy	
Pilot Point, Texas	29.09	738.9	29.87	758.7	81	27.2	74	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.69	611.9	29.86	758.4	47	8.3	21	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.36	745.7	30.16	766.1	60	15.6	88	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.43	747.5	30.07	763.8	68	20.0	79	SW	5	2.2	.....	10ck	Haze	NW	.....	0	0	Clear	
Portland, Maine	29.98	761.5	30.03	762.7	58	14.4	88	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy	
Portland, Oregon	30.08	764.0	30.16	766.1	58.0	14.4	90	S	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Clear	
Prescott, Arizona	24.74	628.4	30.10	764.5	44	6.7	76	W	2	0.9	.....	0	0	.....	.....	0	0	Cloudy	
Punta Rassa, Florida	29.85	758.2	29.87	758.7	75	23.9	90	E	9	4.0	.....	5ck	5s	SW	E	0.50	12.7	Cloudy	
Red Bluff, California	29.61	752.1	29.97	761.2	61	16.1	61	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	72	22.2	85	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.45	748.0	30.05	763.3	67	19.4	74	W	3	1.3	.....	0	0	.....	.....	0.25	6.3	Clear	
Roseburg, Oregon	29.59	751.6	30.16	766.1	57	13.9	87	Calm	0	0	.....	2ck	5k	S	S	0	0	Fair	
Sacramento, California	29.84	757.9	29.92	760.0	57	13.9	69	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.58	751.3	30.14	765.5	67	19.4	79	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.96	761.0	29.97	761.2	72	22.2	76	NE	12	5.4	.....	1c;cs	5s	Calm	E	0	0	Clear	
St. Paul, Minnesota	29.01	736.8	29.79	756.7	72	22.2	75	S	10	4.5	.....	2ck	Haze	SW	Calm	0	0	Fair	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	50	10.0	26	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.24	742.7	29.80	756.9	74	23.3	47	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.77	756.1	29.84	757.9	57	13.9	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.50	749.3	30.16	766.1	68	20.0	74	SW	7	3.1	.....	0	Sm'e	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	30.05	763.3	30.08	764.0	68	20.0	74	SW	12	5.4	.....	5k	Haze	NE	Calm	0	0	Fair	
San Francisco, California	29.89	759.2	29.95	760.7	58	14.4	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.35	593.1	29.89	759.2	61	16.1	61	E	3	1.3	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Savannah, Georgia	29.99	761.7	30.05	764.0	70	21.1	75	NE	11	4.9	.....	8cs	2s	SW	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	69	20.6	80	E	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.11	764.8	30.15	765.8	66	18.9	84	NE	11	4.9	.....	1ks	0	NE	.....	0	0	Clear	
Socorro, New Mexico	25.39	644.9	29.45	748.0	71	21.7	53	N	5	2.2	.....	0	8s	.....	Calm	0	0	Cloudy	
Springfield, Ill	29.50	749.3	30.16	766.1	67	19.4	74	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.93	760.2	30.06	763.5	63	17.2	78	S	2	0.9	.....	8cs	0	N	.....	0	0	Cloudy	
Stockton, Texas	26.93	684.0	29.93	760.2	70	21.1	13	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.03	762.7	30.08	764.0	62	16.7	72	NW	5	2.2	.....	5k	Sm'e	W	.....	0	0	Fair	
Toledo, Ohio	29.45	748.0	30.11	764.8	69	20.6	75	W	8	3.6	.....	0	Sm'e	.....	.....	0	0	Clear	
Tucson, Arizona	27.40	696.0	29.95	760.7	80	26.7	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.75	755.6	30.25	768.3	56.6	13.6	72	NW	6	2.7	.....	0	1s	.....	Calm	0.01	0.3	Clear	
Uvalde, Texas	29.01	736.8	29.81	757.2	70	21.1	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.78	756.4	30.04	763.0	68	20.0	70	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.25	616.2	29.74	755.4	43	6.1	59	SW	12	5.4	.....	.....	10s	.....	W	0.15	3.8	Cloudy	
Visalia, California	29.64	750.3	29.92	760.0	51	10.6	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.06	763.5	30.17	766.3	67	19.4	79	SE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	64	17.8	78	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.73	653.5	30.09	764.3	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	30.02	762.5	30.06	763.5	62	16.7	71	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.54	724.9	29.76	755.9	72	22.2	62	SW	24	10.7	.....	0	Haze	.....	Calm	0	0	Clear	
Yuma, Arizona	29.61	752.1	29.77	756.1	75	23.9	19	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.76	755.9	29.81	757.2	78	25.6	90	SE	1.2	0.5	.....	8c	2n	Calm	SE	1.01	25.7	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	76	24.4	95	SE	4	1.8	.....	.....	10n	.....	Calm	2.37	60.2	Light rain	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.26	641.6	.....	.....	66.5	19.2	80	SW	.....	.....	1	1k	1ks	.....	.....	0.10	2.5	.....	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	83	28.3	.....	E	.....	.....	.....	.....	.....	.....	.....	2.20	55.9	Slightly cl'dy	Thomas Herran.
Paramaribo, D. Guiana, S. A.	30.06	763.5	30.06	763.5	82	27.8	71	E	.....	.....	2	5ck	4s	E	.....	0	0	½ Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	29.94	760.5	29.96	761.0	79	26.1	86	Calm	.....	.....	.....	8c	4k	NW	.....	Blank	Blank	.....	O. J. Hering.
St. Thomas, W. I.	29.62	752.3	29.64	752.8	83	28.3	75	SE	3	1.3	.....	2c	2ks	E	.....	0	0	Clear	Robert Mason.
York Factory, B. A.	30.03	762.7	30.08	764.0	43.0	6.1	90	NW	13	5.8	.....	2c	4s	NW	NW	0	0	Cloudy	G. O. Gellich.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,260 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 6,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,512 (?) ft., or 776 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.67 in., or 68.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.86 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 6.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fe, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla. †	30.30‡	769.6‡	.....	.....	75	23.9	86	NE	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan.....	29.91‡	759.7‡	.....	.....	80	26.7	89	Calm	.....	.....	0	.....	4ck	.....	NW	0	0	.....	.....	Fair.....	
Adams, Mare I'd, Navy Yard, Cal.	29.94‡	760.5‡	.....	.....	63	17.2	94	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Mazatlan, Mexico.....*	29.77‡	756.1‡	.....	.....	78	25.6	95	ENE	.....	.....	1	.....	10	.....	.....	0.15	3.8	.....	.....	Misty.....	
Alliance, Spit Head, Eng.	29.87‡	758.7‡	.....	.....	62	16.7	77	WNW	.....	.....	6	.....	10	.....	WNW	.....	.....	.....	.....	Squally.....	
Ashuelot, Yokohama, Japan	29.92‡	760.0‡	.....	.....	80	26.7	96	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Colorado, New York, N. Y.....	30.01‡	762.2‡	.....	.....	65	18.3	89	SSW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constellation, N. 38° 53', W 76° 23'.....	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Constitution, Navy Yard, Brooklyn, N.Y.	30.11‡	764.8‡	.....	.....	66	18.9	89	W	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....	Hazy.....	
Enterprise, Cowes, England.....	29.85‡	758.2‡	.....	.....	62	16.7	88	W	.....	.....	6	.....	8	.....	WSW	.....	.....	Mod'ate	.....	Cloudy.....	
Essex, S 16° 43', W. 37° 50'.....	30.26‡	768.6‡	.....	.....	73	22.8	85	SE	.....	.....	6	.....	2	.....	SE	.....	.....	Mod'ate	SE	Fair.....	
Franklin, Norfolk, Va.....	30.15‡	766.6‡	.....	.....	67	19.4	84	NNW	.....	.....	.....	.....	2	.....	N	0	0	.....	.....	Fair.....	
Hartford Rio de Janeiro, Brazil...	30.25‡	768.8‡	.....	.....	72	22.2	67	NNW	.....	.....	2	.....	8	.....	NW	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	29.97‡	761.2‡	.....	.....	66	18.9	74	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Kearsarge, N. 45° 30', W. 59° 00'.....	30.04‡	763.0‡	.....	.....	59	15.0	88	SE	.....	.....	5–6	.....	8	.....	SE	.....	.....	Long	SE	Cloudy.....	
Lackawana, Apia, Samoa Is.....†	29.88‡	758.9‡	.....	.....	76	24.4	77	SSE	.....	.....	2–3	.....	5	.....	SSE	.....	.....	Smooth	.....	Fair.....	
Michigan, Milwaukee, Wis.....	30.00‡	762.0‡	.....	.....	72	22.2	80	SSW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Cheefoo, China.....	29.90‡	759.4‡	.....	.....	77	25.0	77	SE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Monongahela, N. 36° 26', E. 141° 51'.....	29.94‡	760.5‡	.....	.....	78	25.6	73	SSE	.....	.....	1	.....	ck	.....	.....	0	0	Light	S	D. clouds....	
New Hampshire. Port Royal, S. C.....	30.09‡	764.3‡	.....	.....	71	21.7	80	NE	22	9.8	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Onward, Callao, Peru.....†	30.01‡	762.2‡	.....	.....	61	16.1	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Chefoo, China.....	29.91‡	759.7‡	.....	.....	77	25.0	82	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Passaic, Washington, D. C.....	30.14‡	765.6‡	.....	.....	65	18.3	??	SSW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Iquique, Peru.....	30.04‡	763.0‡	.....	.....	63	17.2	72	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Fair	
Portsmouth. S.W.Harbor, Mt.Desert, Me.	30.02‡	762.6‡	.....	.....	61	16.1	71	N	.....	.....	2	.....	2	.....	N	0	0	Smooth	.....	Clear.....	
Powhatan, Navy Yard, Brooklyn, N. Y.	30.07‡	763.6‡	.....	.....	65	18.3	84	WSW	.....	.....	2	.....	5	.....	SW	0	0	.....	.....	Fair.....	
Quinnebaug, Venice, Italy.....	30.06‡	763.6‡	.....	.....	80	26.7	70	S	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Ranger, Yokohama, Japan.....§.	30.10‡	764.5‡	.....	.....	84	28.9	83	S	.....	.....	4	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Richmond, Yokohama, Japan.....	29.92‡	760.0‡	.....	.....	83	28.3	87	SW	.....	.....	0–1	.....	8	.....	SSW	0	0	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.84‡	757.9‡	.....	.....	76	24.4	100	NNW	.....	.....	1	.....	10	.....	E	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md.....	30.16‡	766.1‡	.....	.....	67	19.4	74	W	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Saratoga, New London, Conn.....	30.08‡	764.0‡	.....	.....	61	16.1	94	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	.....	Blue sky.....	
St. Louis, League Island, Pa	30.11‡	764.6‡	.....	.....	64	17.8	94	SW	8	3.6	.....	.....	8	.....	NW	0	0	.....	.....	Foggy.....	
Trenton, Off Isle of Wight, Eng...	29.86‡	758.4‡	.....	.....	63	17.2	72	W	.....	.....	6	.....	10	.....	S;W	0	0	.....	.....	Misty.....	
Tuscarora, Mare Isl. Navy Yard, Cal	29.95‡	760.7‡	.....	.....	62	16.7	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Vandalia, Navy Yard, Pensacola, Fla.	29.84‡	757.9‡	.....	.....	77	25.0	69	NE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	30.05‡	763.3‡	.....	.....	57	13.9	75	NW	4	1.8	.....	.....	5	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, Portsmouth, N. H.....	30.02‡	762.5‡	.....	.....	64	17.8	89	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wyoming, Constantinople, Turkey	30.08‡	764.4‡	.....	.....	75	23.9	68	NNE	.....	.....	3–4	.....	2	.....	NE	.....	.....	Smooth	NE	Fair	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity

†Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
Note.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, Panama Bay, Panama.†		29.98‡	761.6‡	78	25.6	91	E			1		6		SE	0.04 in. or 1.0 mm	Small	E	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connors.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		29.89‡	759.2‡				NE			2				NE				Fine	R. C. Ghest, 1st Officer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China.....†		29.73‡	755.1‡	81	27.2	91	E			2		10n			Light			Showery	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 37° 53', W. 150° 25'..†		30.22‡	767.6‡	70	21.1		NNE			4		ks		NE	Heavy	Smooth	SW	Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 50° 40', E. 0° 17'		30.19‡	766.8‡	65	18.3	68	WSW			7		8		WSW		Rough	WSW	Overcast	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfaffer, N. 38° 02', W. 74° 10'		30.14‡	765.6‡	75.0	23.9	77	W			2		2		W	0	Smooth	W	Clear	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 51° 29', E. 2° 05'		29.76‡	755.9‡				WSW			7		5		W		7	WSW	Cloudy?	Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. N. 42° 22', W. 63° 06'		29.75‡	755.6‡	60	15.6	88	ENE			1		9		ENE	Heavy	Heavy	SE	Cloudy	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 33° 40', W. 77° 41'		30.08‡	764.0‡	73	22.8	72	NE	12	5.4			5k		NE	0	Swell	NE	D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 35° 48', W. 70° 01'		29.97‡	761.2‡				N			4		8		NE	Blank	Smooth	NE	Foggy	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 19° 10', W. 42° 24'		30.13‡	765.3‡	80	26.7	87	ENE			5		6				3	E	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

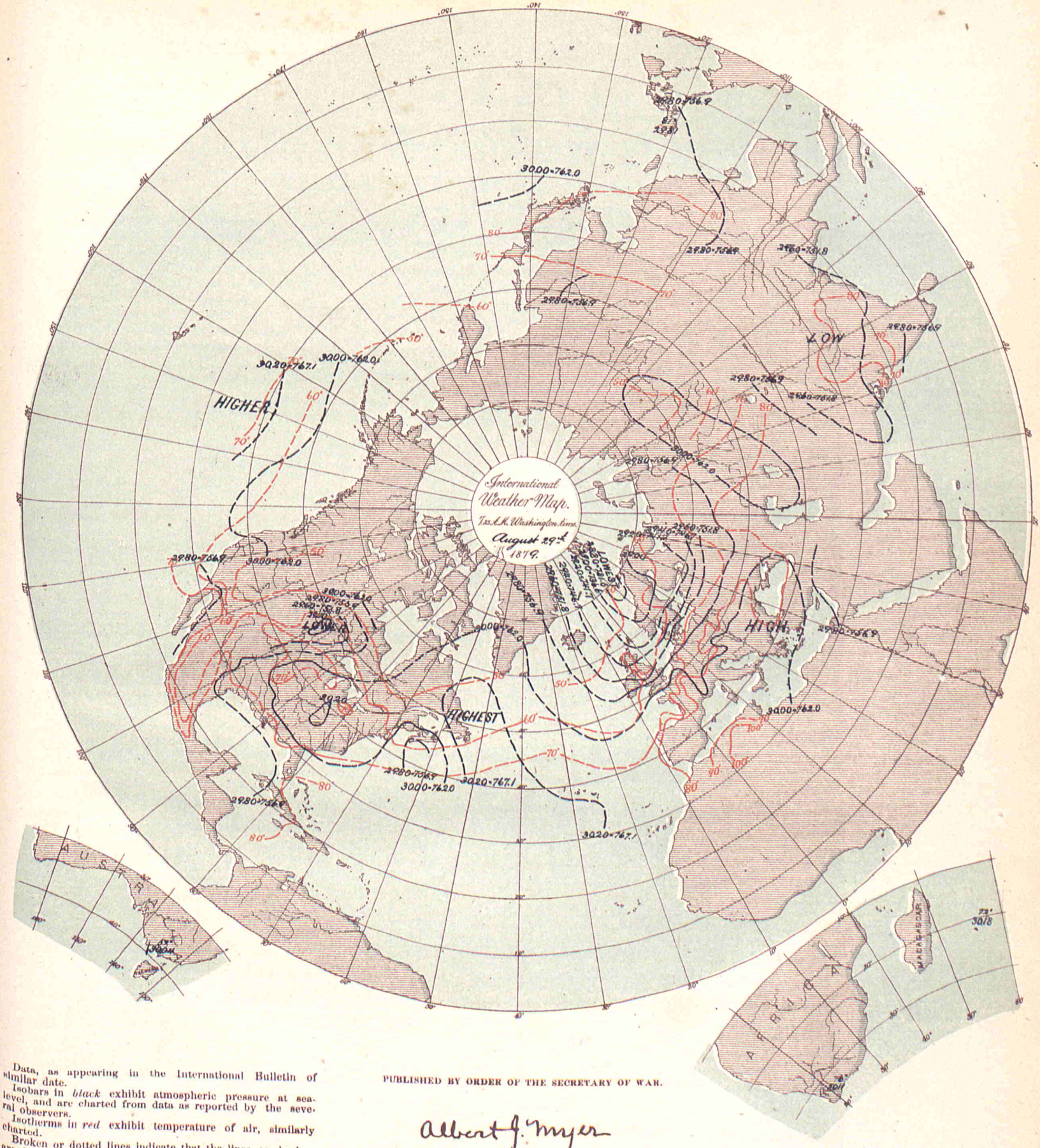
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near lar. stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.5	78.3	20.7	88	NW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.97	761.1	86.4	30.2	62	Calm	.....	.....	0	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.93	760.3	89.6	32.0	47	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.98	761.6	81.3	27.4	84	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.95	760.6	88.5	31.4	21	SSE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.05	763.2	90.7	32.6	30	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	71.8	22.1	50	S	.....	.....	3	.....	2	.....	.....	Inap.	Inap.	Fair	Brugniaux.
Laghouat	.....	.....	30.02	762.5	92.8	33.8	24	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.99	761.6	101.5	38.6	23	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.39	746.4	29.91	759.6	83.5	28.6	53	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Oracow, I. R. Observatory	29.22	742.3	29.95	760.8	81.7	27.6	62	NE	3.4	1.5	.....	.....	3	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.09	738.9	29.92	760.0	79.9	26.6	58	Calm	.....	.....	0	5c	.....	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.74	729.9	29.93	760.1	77.2	25.1	69	WSW	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.65	727.8	29.99	761.7	88.7	31.5	37	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.62	726.9	29.89	759.1	79.0	26.1	51	NNE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.00	736.6	29.93	760.2	81.0	27.2	65	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.87	758.6	29.98	761.4	82.9	28.3	60	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.56	750.9	30.01	762.2	86.7	30.4	44	SE	.....	.....	3	.....	7	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.89	759.1	29.99	761.7	81.3	27.4	70	WSW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.24	742.6	29.97	761.2	80.4	26.9	69	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob'sy.
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0 –10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.66	753.4	29.76	755.9	58.2	14.6	.....	SSW	16	7.2	.....	.....	4	.....	.....	0.120	3.05	D. clouds	W. Boswell.
Ardrossan	29.72	754.9	29.74	755.4	57	13.9	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Wm.McNeil &G.Carrick
Armagh, Observatory	29.54	750.3	29.76	755.9	53.7	12.1	.....	SSW	9	4.0	.....	.....	9	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.85	758.2	59.4	15.2	.....	SW	15	6.7	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	29.84	757.9	62.0	16.7	.....	SSW	24	10.7	.....	.....	5	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.48	748.6	29.87	758.7	61.0	16.1	.....	NW	.....	.....	3	.....	7	.....	.....	0.03	0.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.10	762.0	82	27.8	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.85	758.2	29.94	760.5	63.5	17.5	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.94	760.5	66.0	18.9	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham, School M. E.	29.86	758.4	29.99	761.7	64.5	18.1	.....	SW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper. R. E.
Donaghadee	29.72	754.9	29.76	755.9	51	10.6	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	61	16.1	.....	SW	.....	.....	3	.....	3	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.76	755.9	29.99	761.7	60.9	16.1	.....	SSW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	48	25.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling	
Galway, Queen's College	.....	.....	29.72	754.9	55	12.8	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Showery	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.97	761.2	67.6	30.9	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.44	747.8	29.85	758.1	52.0	11.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	29.95	760.7	29.96	761.0	64	17.8	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.81	757.2	29.98	761.5	67.4	19.7	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	The Staff, for G.B.Airy.
Guernsey	29.80	756.9	30.01	762.2	61	17.8	.....	SW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.94	760.5	30.06	763.5	62	16.7	.....	SW	.....	.....	6	.....	4ck	.....	.....	0.50	12.7	Fine	M. P. Moyle.
Holyhead	29.82	757.4	29.83	757.7	60	15.6	.....	SW	.....	.....	5	.....	2	.....	.....	.....	.....	Showery	John Tilston.
Jersey	29.78	756.4	30.07	763.8	62.0	16.7	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.74	755.4	29.78	756.4	61.8	16.6	.....	SW	12	5.4	.....	.....	5	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester, Museum	29.66	753.4	29.91	759.7	63.5	17.5	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.95	760.7	83.0	28.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.59	751.6	29.68	753.9	58	14.4	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.98	761.5	85.0	29.4	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.72	754.9	29.91	759.7	64.7	18.2	.....	SW	.....	.....	4	.....	7k;ks	.....	SW	0.104	2.64	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.39	746.5	29.91	759.7	60.0	15.6	.....	S	.....	.....	4–5	.....	9	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.94	760.5	64	17.8	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	29.92	760.0	29.98	761.5	63.7	17.6	.....	S	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.80	756.9	29.91	759.7	56	13.3	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.74	755.4	29.90	759.4	58	14.4	.....	WSW	.....	.....	6	.....	8	.....	.....	.....	.....	Squally	John O. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.71	754.6	54.4	12.4	.....	SE	23	10.3	.....	.....	5	.....	.....	.....	.....	D. clouds	Rev.C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.90	759.4	29.96	761.0	84.2	29.0	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Serg't.W. H.Lyne.
Sheffield	29.64	752.8	29.91	759.7	62.8	17.1	.....	SW	.....	.....	2	.....	4	.....	.....	0.09	2.3	D. clouds	W. F. Cooper.
Silloth Rectory	29.76	755.9	29.79	756.7	57.5	14.2	84	W	.....	.....	5	.....	6	.....	.....	0.020	0.51	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	29.84	757.9	58.0	14.4	.....	SSW	11	4.9	.....	.....	7	.....	.....	Blank	Blank	D. clouds	Rev. S. J. Perry.
Straifield, Turgiss	.....	.....	.....	.....	63.2	17.3	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.98	761.5	30.04	763.0	67	19.4	.....	SW	.....	.....	7	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.79	756.7	29.82	757.4	56.5	13.6	.....	SW	20	8.9	.....	.....	7	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.14	765.5	30.18	766.6	65.3	18.5	.....	SSE	15.0	6.7	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, Restalrig Park	.....	.....	29.79	756.7	61.0	16.1	.....	W	.....	.....	3	.....	5k	.....	.....	0.08	2.0	Fine	Andrew Gibb.
Mauritius, Observatory	30.04	763.0	30.23	767.8	71.0	21.7	73	SSE	21.0	9.4	.....	.....	6	.....	ESE	0.44	11.2	Squally	C. Meldrum.
Melbourne, Observatory	30.16	766.0	30.25	768.3	48.2	9.0	55	SSE	2	0.9	.....	.....	1	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.63	752.6	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	0.60	15.2	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0 –10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 41° 05′ E. 28° 15′	.....	.....	30.011	762.24	78	25.6	NE	.....	.....	5	.....	2	.....	.....	.....	.....	Squally	Capt. W. J. L. Wharton.
Gordon Castle, N. 40° 35′, W. 67° 30′	.....	.....	29.83	757.7	61	16.1	NNW	.....	.....	4	.....	9	.....	.....	3	Confused.	Overcast	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. W. Dyke.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Watson.
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NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper 0—10.	Low'r 0—10.	Upper, From—	Lower. From—	Inches.	Millimeters.		
San José	26.24	666.5	29.96	761.0	65.8	18.8	90	NE	.....	.....	2	8c;ck	.....	.....	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.3	29.82	757.5	62.1	16.7	59	WNW	.....	.....	6	.....	6	.....	.....	.....	.....	.....	.....
Fanöe	29.85	758.2	29.87	758.7	58.3	14.6	75	W	.....	.....	6	.....	7	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.76	755.9	29.80	757.0	39.2	4.0	95	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	.....
Stykkisholm (Iceland)	29.53	750.0	29.57	751.1	53.8	12.1	61	SW	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.63	752.5	29.66	753.4	48.4	9.1	87	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.63	752.6	29.74	755.4	57.7	14.3	87	WSW	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.66	750.7	30.11	764.7	63.3	17.4	76	N	.....	.....	1	.....	10n	.....	.....	0.031	0.8	Covered	Collignon, Director.
Amiens, Normal School	29.95	760.7	30.06	763.4	63.7	17.6	80	SSW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.79	756.6	30.01	763.1	60.1	15.6	79	SW	.....	.....	1	.....	.....	.....	NW	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.92	760.0	30.00	762.0	83.7	28.7	60	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Par-sur-Seine	29.61	749.6	30.07	764.0	59.7	15.4	82	NE	.....	.....	1	.....	10	.....	.....	0.35	9.	Covered	O. Saillard, Director.
Beauvais, Normal School	29.80	757.0	30.07	763.7	63.3	17.4	67	SW	.....	.....	1	.....	10	.....	.....	0.177	0.45	Covered	Frere Eugene Marie.
Besançon, Normal School	29.13	739.9	30.00	761.9	71.6	22	74	W	.....	.....	1	.....	5	NE	.....	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.4	30.10	764.5	77.0	25	76	NW	.....	.....	1	.....	5s	.....	NW	0	0	Misty	Marlot, Director.
Bourges, Normal School	29.47	748.6	30.02	762.4	62.6	17	80	NNE	.....	.....	1	.....	ks	NE	NE	0.413	10.5	.....	M. Gence, Director.
Brest, Naval Observatory	29.92	760.0	30.17	766.2	69.4	20.8	67	SW	.....	.....	2	.....	2k	.....	SW	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.59	751.5	29.98	761.4	80.6	27	58	E	.....	.....	1	.....	8	ESE	ESE	0	0	Very cloudy	September, Dir.
Caen, Normal School	29.93	760.2	30.00	762.0	68.4	20.2	65	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	M. Bletrin, Director.
Chartres, Normal School	29.48	748.9	30.02	762.6	63.0	17.2	76	N	.....	.....	1	.....	10	.....	NW	0.134	3.4	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	755.6	30.06	763.4	67.3	19.6	67	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.65	727.8	29.96	760.9	71.6	22.0	74	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.20	741.6	30.01	762.2	60.4	15.8	89	W	.....	.....	1	.....	5k	W	W	0.12	3.	Light rain	Dr. Couet, Director.
Commune de Gréasque*	28.95	735.2	30.09	764.2	88.2	31.2	28	S	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.26	743.1	29.99	761.7	78.1	25.6	71	NW	.....	.....	5	.....	k	.....	W	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. School	29.96	760.9	30.17	766.3	61.9	16.6	80	NNW	.....	.....	1	.....	8	.....	NW	0.012	0.3	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.76	755.8	30.07	763.6	61.5	16.4	70	NNW	.....	.....	1	.....	8	.....	NNW	0	0	Very cloudy	Pourrier, Director
Lons-Le-Saulnier, N. School	29.10	739.1	29.98	761.6	73.8	23.2	93	N	.....	.....	1	.....	n	N	N	0	0	.....	A. Baudry, Director.
Lorient, Naval Observatory	30.00	762.0	30.10	764.8	66.6	19.2	77	S	.....	.....	1	.....	.....	.....	S	0.063	1.60	.....	Lt.T. Carré, Director.
Lyons Obs'y (Park Station)	29.36	745.8	29.95	760.7	78.8	26.0	64	NNW	.....	.....	1	.....	5	.....	WSW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gaizin, Director.
Marseilles, Observatory	29.72	754.8	29.98	761.4	86.2	30.1	42	S	.....	.....	2	.....	3	.....	SE	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.95	735.4	29.98	761.4	64.2	17.9	76	NE	.....	.....	1	.....	10k	NE	NE	.....	.....	Covered	Barbier, Director.
Mont-Louis	24.97	634.2	30.28	769.2	77.0	25.0	28	S	35.3	15.8	.....	.....	.....	.....	W	6	0	.....	M. Cave.
Nice	30.00	762.1	30.04	762.9	81.5	27.5	73	SE	.....	.....	1	.....	1	SE	SE	0	0	Clear	M. Boissiéré, Director.
Nismes, Normal School	29.74	755.4	29.93	760.3	83.2	31.2	47	S	.....	.....	1	.....	5	.....	S	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.75	755.7	.....	.....	59.7	15.4	72	N	.....	.....	1	.....	10	.....	.....	0.004	0.1	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.70	576.2	.....	.....	61.3	16.3	.....	SW	.....	.....	3	.....	1	N	SW	0	0	Clear	Gen'l de Nansouty.
Perpignan	29.91	759.8	30.02	762.4	76.6	24.8	74	SE	5.6	2.5	.....	.....	6	.....	SW	0	0	Foggy	Dr. Flues.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.28	642.2	.....	.....	59.4	15.2	95	W	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.04	763.0	30.07	763.8	67.1	19.5	76	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.98	761.4	30.07	763.6	61.8	16.8	74	W	.....	.....	1	.....	8	.....	W	0.043	1.1	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.00	762.0	30.03	762.8	69.1	20.6	66	WNW	.....	.....	2	.....	1	WSW	WSW	0	0	Clear	Lt. Herëouet, Director.
Saint Maur (near Paris)	29.89	759.3	30.07	763.6	58.6	14.8	92	NE	.....	.....	1	.....	10	SW	SW	0.031	0.8	.....	E. Renou, Director.
Tarbes, Normal School	29.10	739.1	30.16	766.0	68.0	20	91	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.32	744.7	30.04	763.1	80.2	26.8	65	SSW	.....	.....	1	.....	3	.....	.....	0	0	.....	M. Julier Mercadier.
Tours	29.86	758.5	30.06	763.5	67.8	19.9	66	N	.....	.....	1	.....	10	.....	N	0.114	2.9	Covered	Cousin-Marquet.
Versailles, Observatory	29.59	751.5	30.08	764.0	58.6	14.8	82	N	.....	.....	1	.....	10	.....	.....	0.010	0.25	Light rain	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S	29.29	744.0	29.97	761.2	80.6	27	73	E	.....	.....	1	.....	5	.....	SW	0	0	.....	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.86	758.3	29.88	759.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.88	758.9	29.90	759.5	79.0	26.1	92	E	5.8	2.6	.....	.....	4k	.....	ESE	0	0	Cloudy	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	741.9	30.06	763.3	62.2	16.8	79	Calm			0		10			0.094	2.4		Prof. Dr. Hoh.
Berlin	29.85	758.1	30.01	762.3	68.4	20.5	75	S			1		7			0	0		Prof. Dr. Arndt.
Breslau	29.54	750.2	30.07	763.7	66.2	19.6	67	NW			2		10					Drizzling	Royal University Obs'y.
Carlsruhe	29.62	752.3	30.04	762.9	64.0	17.8	76	ESE			0		10	SE		0.134	3.4		Albert Senz.
Cassel	29.47	748.5	30.08	764.0	66.6	19.2	71	W			3		8	W		0.013	0.32		Dr. H. Möhl.
Crefeld	29.86	758.4	30.02	762.5	65.8	18.8	65	SW			2		8			0	0		Director Lose.
Emden			29.98	761.4	60.1	15.6	89	W			1		10			0.087	2.2		Prof. Dr. Prestel.
Frankfort on the Main	29.68	753.8	30.04	763.0	67.1	19.5		SSW			1		10			0.067	1.7		Physical Society.
Freienwalde on the Oder																			Dr. Assmann.
Friedrichshafen	28.57	725.7	29.95	760.6	73.8	23.2	82	SW			3		5	SW		0.413	10.5		M. Wilhelm.
Hamburg	29.90	759.4	29.97	761.2	62.4	16.9	71	WNW			4		10kn					Showery	Captain F. Hegemann.
Kiel	29.89	759.2	29.91	759.6	63.8	17.4	61	WSW			3		5			0.200	5.08		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.84	757.8	29.92	759.9	65.1	18.4	71	SW			5		4			0.004	0.1		Prof. E. Luther.
Köslin			29.91	759.6	64.0	18.1		W			4		3			0	0		H. Müller.
Leipsic Observatory	29.64	752.8	30.05	763.3	63.5	17.5	75	SW			2		10	WSW				Rainy	Prof. Bruhns, Privy Counsellor.
Memel	29.82	757.3	29.86	758.5	63.7	17.6	77	SW			7		10n						Skalweit.
Munich (München)	28.20	716.3	30.07	763.6	75.7	23.4	66	NE			3		3			0	0	Hazy	Dr. C. La g.
Neufahrwasser	29.92	759.9	29.93	760.3	67.1	19.5	80	SW			3		10			0	0		A. Lothes.
Posen	29.72	755.0	30.01	762.2	63.1	17.3	82	S			4		10			0.094	2.4		Dr. Magener.
Strassburg (in Alsace)	29.52	749.9	30.07	763.6	63.7	17.6	74	NE			1		10			0.671	17.04		Imp. University Observatory.
Stuttgart	29.10	739.2	30.03	762.7	63.1	17.5	73	N			1		10			0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.57	725.7	30.05	763.2	62.2	16.8	69	ENE	2	1			10			0	0		T. Hopfner.
Wustrow	29.89	759.3	29.92	759.9	62.4	16.9	74	SW			5		10s			0.016	0.4		E. Schultz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:6 instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.3	29.95	760.7	88.9	31.6		NE			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.49	749.0	29.54	750.2	83.1	28.4	69	NW	14.0	6.3			6	NW		0	0	D. clouds	
Deesa	29.14	740.1	29.61	752.0	80.7	27.1	87	SSW	11.8	5.3			3	ESE		0.22	5.6	D. clouds	
Bombay	29.64	752.9	29.68	753.8	78.4	25.8	91	NW	16 0	7.2			10		N	0.13	3.3	Overcast	
Poona	27.83	706.8	29.69	754.0	73.9	23.3	87	W	16.0	7.2			9		W	0.05	1.3	D. clouds	
Lahore	28.84	732.6	29.58	751.2	84.6	28.9	79	NE	3.3	1.5			8			0.20	5.1	D. clouds	
Belgaum	27.19	690.6	29.76	755.8	67.9	19.9	94	W	17.0	7.6			10	W	W	0.16	4.1	Drizzling	
Roorkee	28.66	727.9	29.54	750.2	87.2	30.7	74	Calm	1.1	0.5			8			0	0	D. clouds	
Agra	29.03	737.4	29.59	751.7	77.7	25.4	95	E	2.4	1.1			10		E	0	0		
Nagpur	28.52	724.8	29.55	750.6	79.5	26.4	83	NW	4.7	2.1			8		SE	0	0	D. clouds	
Lucknow	29.15	740.3	29.52	749.7	86.2	30.1	88	ENE	1.0	0.4			10			0	0	Overcast	
Allahabad	29.20	741.7	29.51	749.6	81.1	27.3	89	NW	1.6	0.7			10			0.04	1.0	Overcast	
Patna	29.35	745.5	29.53	750.0	82.9	28.3	81	E	0.8	0.4			8	E	E	0.06	1.5	D. clouds	
Hazaribagh	27.53	699.4	29.52	749.8	79.3	26.3	77	E	6.0	2.7			7		E	0.09	2.3	Thunder-storm	
Cuttack	29.46	748.2	29.54	750.2	82.2	27.9	85	E	3.0	1.3			9			0.40	10.2	Drizzling	
Calcutta (Alipore)	29.51	749.6	29.54	750.2	82.7	28.2	83	ESE	6.0	2.7			4	E		0	0	D. clouds	
Goalpara	29.16	740.8	29.55	750.4	85.7	29.8	81	Calm	2.1	0.9			3			0.87	22.1	D. clouds	
Chittagong	29.50	749.4	29.59	751.6	82.7	28.2	86	WSW	3.1	1.4			4			0	0	Misty	
Sibsagar	29.21	741.9	29.53	750.1	91.1	32.8	67	SW	1.9	0.8			4			0	0	Blue sky	
Jubbulpore	28.18	715.8	29.54	750.4	77.7	25.4	93	Calm	4.1	1.8			10		E	0.40	10.2	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.59	751.6	29.98	761.5	83.1	28.4	52	NE	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Milan	29.46	748.3	29.95	760.8	87.3	30.7	47	SE			2		4	WSW		0	0		Prof. Schiaparelli.
Padua	29.85	758.3	29.96	761.0	84.6	29.2	53	SW	1.8	0.8			1			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.1	29.97	761.2	83.7	28.7	52	ESE	1.3	0.6			4	SE		0	0		Prof. P. F. Denza.
Genoa	29.82	757.5	30.01	762.2	77.8	25.5	70	SW	4.9	2.2			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	29.95	760.8	81.9	27.7	52	NE			2		4	SE		0	0		Prof. D. C. Bruno.
Pesaro	29.92	760 0	29.97	761.2	79.3	26.8	74	NE	9.8	4.4			2			0	0		Prof. Luigi Guidi.
Florence	29.75	755.6	29.99	761.8	87.8	31.0	31	W			2		1			0	0		Cav. F. Meucci.
Leghorn	29.92	759.9	30.00	761.9	79.0	26.1	74	WSW	3.8	1.7			0			0	0		Prof. P. Monte.
Rome	29.81	757.2	29.98	761.5	88.2	31.2	43	W	9.4	4.2			0			0	0		Prof. P. S. Ferrari.
Lecce	29.73	755.2	29.98	761.5	87.8	31.0	32	NE	3.1	1.4			0			0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.5	29.96	760.9	89.4	31.9	56	SE	1.8	0.8			0			0	0		Prof. D. Conti.
Cagliari	29.82	757.3	30.00	762.0	84.0	28.9	38	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.78	756.3	30.02	762.5	79.5	26.4	68	NE	6.9	3.1			1			0	0		Prof. G. Cacciatore.
Syracuse	29.94	760.4	30.01	762.2	87.1	30.6	58	S	7.4	3.3			2	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.8	30.04	762.9	85.6	29.8	63	SW	1.8	0.8			2			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	81.0	27.2	88	SW	1.0	0.4			3cks;s		SW	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	755.1	29.93	760.2	79.1	26.2	93	WSW	0.2	0.1			8cs			0.020	0.51	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.77	756.1	29.83	757.7	78.9	26.1	89	SSW	10.2	4.6		1cs	2ks;s		S	0	0	Fair	The Staff.
Wakayama	29.82	757.4	29.87	758.7	81.9	27.7	74	ESE	2.9	1.3			3ks		W	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.01	635.2	29.97	761.3	60.6	16.0	77	SW			1		8		N	0	0	Cloudy	Prof. L. Peres.
Leon	24.41	619.9	30.07	763.6	60.1	15.6	65	SW			1	0	0			0	0	Light haze.	Prof. M. Legl.
Mexico, Central Obs'y	23.03	585.0	30.02	762.5	54.5	12.5	65	Calm	0	0		7ck	1s	SW		0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					67.9	14.4	66	NW			1	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.60	757.0	29.82	757.3	77.5	25.3	68	N	1	0.4		6	3	N	NE	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.19	614.4	30.13	765.4	59.0	15.0	50	E			1	0	0			0	0	Very fine	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossel.
Zacatecas	22.51	571.7	30.04	763.0	57.2	14.0	81	Calm			0	1k	0	E		0	0	Fine	A. Nuñez.
Puebla (Catholic Institute)	23.36	593.4	30.08	763.9	53.8	12.1	79	SE	0.4	0.2			7ck		SE	0.33	8.3	Cloudy	Prof. P. Spina.
Colima																			R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.57	751.1	29.86	758.4	79.9	26.6	92	NE			1		9n		NW	0.04	1.0	Raining	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.04	763.1	30.04	763.1	65.1	18.4		W			3					0	0		
Groningen	29.91	759.6	29.97	761.2	62.1	16.7		W			1					0.024	0.6		
Helder	29.97	761.1	29.97	761.1	61.2	16 2		WSW			3					0.008	0.2		
Hellevoetsluis	30.01	762.2	30.01	762.2	63.0	17.2	65	W			4					0	0		
Utrecht	29.98	761.4	30.02	762.6	65.5	18.6	68	WSW			3		8			0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.58	751.4	29.64	752.8	55.8	13.2	55	WNW	12.8	5.7	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.25	742.9	29.29	743.9	55.4	13.0	87	NW	18	8	.....	.....	10	.....	.....	1.024	26.0	.....	
Christiania	29.33	744.9	29.47	748.5	66.9	19.4	49	SW	7	3	.....	.....	6	.....	.....	0.083	2.1	.....	
Tromsö	29.17	740.8	29.21	741.9	51.8	11.0	85	N	11	5	.....	.....	10	.....	.....	0.118	3.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.92	760.0	30.11	764.8	68.4	20.2	80	ENE	16.7	7.5	.....	.....	4	.....	.....	0.787	20.0	.....	Dr. J. A. Sampaio.
Campo Major	29.64	737.5	30.00	762.1	85.3	29.(	34	WSW	6.9	3.1	.....	.....	4	WSW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.97	761.1	30.05	763.3	78.1	25.(	59	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.5	30.09	764.3	77.2	25.1	61	SSW	7.4	3.3	.....	.....	6	SSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.3	30.10	764.5	73.4	23.0	88	NE	4.3	1.9	.....	.....	10	.....	.....	0.827	21.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea				H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Capo Verd I.	2	SW	D. clouds	A. A. A. Loureiro.
Sá da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello				H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	1	SE	Overcast	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.59	751.5	30.00	761.9	69.6	20.9	62	W	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.51	749.6	29.92	759.9	67.6	19.8	48	WSW	7	3	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.37	746.0	29.61	752.0	60.8	16.0	66	WSW	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.40	746.7	29.41	747.1	61.2	16.2	78	W	22	10	.....	.....	6k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.36	745.7	29.96	760.9	81.1	27.5	58	WNW	4	2	.....	c	8ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.02	762.6	30.10	764.4	88.0	31.1	44	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdukof.
Kertch	30.12	765.0	30.14	765.5	79.7	26.5	71	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.18	741.1	29.70	754.4	67.1	19.5	53	SE	13	6	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.72	755.0	29.92	759.9	89.0	32.0	30	SSW	13	6	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	28.99	736.4	29.01	736.9	58.8	14.9	82	NNE	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.62	727.0	29.96	761.0	86.9	30.5	34	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.09	764.3	30.01	762.2	86.9	30.5	37	ESE	2	1	.....	.....	3k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.26	743.0	29.70	754.3	73.9	23.3	50	W	7	3	.....	.....	9	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.27	743.5	29.53	750.0	69.6	20.9	44	WSW	20	9	.....	.....	1k	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.67	725.7	29.49	749.1	63.5	17.5	80	W	13	6	.....	.....	10	.....	.....	.....	.....	Heavy rain.	Meteorological Obs.
Nukuss	29.76	755.9	29.98	761.6	79.7	26.5	18	NNE	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	
Tashkend	28.37	720.5	29.56	758.4	78.8	26	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.64	752.8	30.13	765.4	56.3	13.5	51	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.90	759.4	30.19	766.7	51.1	10.6	75	WNW	4	2	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk											.....	.....		.....	.....	.....	.....	.....	
Peking (China)	29.78	756 3	29.92	759.9	75.0	23.9	72	SW	7	3	.....	.....	6k	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk											.....	.....		.....	.....	.....	.....	.....	
Vladivostock	29.68	753.8	29.78	756.3	71.2	21.8	79	SW	7.8	3.5	.....	.....	8cn	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor											.....	.....		.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.7	83.1	28.4	66	SE	1.5	0.67	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Directo
Bilbao, Met. Obs'y	29.96	760.9	30.01	762.3	78.1	25.6	70	NW	2.2	0.98	.....	.....	10	.....	.....	0.043	1.1	Covered	Prof. Manuel de Navera
Burgos, Met. Obs'y	27.07	687.6	.....	.....	81.0	27.2	48	SW	3.2	1.43	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martin y Perez
Madrid, Royal Observatory	27.82	706.5	29.88	758.9	94.6	34.8	23	SW	9.7	4.34	.....	3	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.93	760.3	94.6	34.8	46	ENE	2.9	1.25	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.16	740.4	30.03	762.7	66.4	19.1	80	NE	11.2	5.0	.....	.....	10	.....	.....	0.236	6.0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.85	758.1	29.91	759.8	79.1	26.2	88	SSE	9.2	4.1	.....	10ck;cs	0	E	.....	1.307	33.2	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.85	758.1	82.4	28.0	67	SW	0	0	.....	.....	10n	.....	W	0.193	4.9	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.03	762.8	81.5	27.6	67	WNW	11.7	5.3	.....	8	0	W	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.94	760.4	30.03	762.7	83.1	28.4	73	SE	8.7	3.87	.....	8s	2k	SE	SE	0	0	Clear	Leonardo de Tejada, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,160.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.07	738.4	29.11	739.4	57.6	14.2	.....	SE	.....	.....	2	.....	10	.....	.....	0.551	14.0	.....	
Umea	29.11	739.3	29.16	740.6	62.2	16.8	68	NW	.....	.....	2	.....	10	.....	.....	0.051	1.3	.....	
Hernosand	29.21	741.8	29.26	743.1	63.8	18.8	56	SW	.....	.....	4	.....	5	.....	.....	0.118	3.0	.....	
Stockholm	29.30	744.1	29.47	748.6	63.7	17.6	56	WSW	.....	.....	6	.....	5	.....	.....	0.106	2.7	.....	
Wisby	29.52	749.9	29.58	751.4	63.7	17.6	67	W	.....	.....	7	.....	3	.....	.....	0.028	0.7	.....	
Sub-Series.																			
Upsala	29.33	744.9	29.41	747.1	65.7	18.7	80	WSW	17.4	7.8	.....	.....	8	.....	W	0.001	0.03	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.8	29.04	760.5	75.0	23.9	71	N	.....	.....	3	.....	7	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.43	722.1	29.09	761.7	78.1	25.6	66	NW	.....	.....	1	.....	2	.....	.....	0.228	5.8	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.7 mm.; Thermometer, +3.5 Cent.; Relative Humidity, +13 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.1	77.9	25.5	41	ENE	27	12.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.6	86.4	30.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.6	90.6	32.2	59	WSW	.....	.....	3	.....	1k	.....	SW	0	0	D. clouds	Prof. C.V.A.Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.78	756.4	29.84	757.9	68	14.4	72	N	18	6.8	.....	2k	8ks	N	N	Inap.	Inap.	Cloudy	G. A. Ball.
Charlottetown, P. E. Island	29.67	753.6	29.71	754.6	66	18.8	91	NW	20	8.9	.....	.....	10n	.....	N	1.420	36.07	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	60.6	15.6	80	N	.....	.....	1	1cs	0	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.71	754.6	29.88	758.9	56.5	13.6	87	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.93	760.2	29.95	760.7	51	10.6	96	SW	20	8.9	.....	8ck	0	NE	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.91	759.7	56.4	13.4	73	N	7	3.1	.....	10ck	0	W	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba	29.08	738.6	29.88	758.9	60	15.4	88	S	4	1.8	.....	Haze	Haze	SW	SW	0	0	Hazy	James Stewart.
Granton, Ontario	29.01	736.8	30.08	764.0	65	18.3	100	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.64	752.8	29.77	756.1	55	12.8	87	NW	10	4.5	.....	.....	10n	.....	.....	0.532	13.51	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.09	764.3	70 3	21.8	83	NE	.....	.....	2	6c	0	W	.....	0	0	Fair	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.76	755.9	29.98	764.0	62	16.7	79	NE	6	2.7	.....	5ck	0	W	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.63	750.0	29.87	751.1	56.6	13.7	97	N	12	5.4	.....	.....	10n	.....	.....	1.26	32.0	Misty	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.86	758.4	30.06	763.5	68	14.4	83	N	4	1.8	.....	.....	10ks	.....	E	0.08	2.0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.42	747.3	30.10	764.5	62	16.7	83	E	2	0.9	.....	2ck	0	NW	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.10	764.5	64.7	18.2	77	Calm	.....	.....	0	6c;k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.07	763.8	67	19.4	95	N	6	2.7	.....	10k	0	NW	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	29.62	752.3	29.66	753.4	60.6	15.4	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.07	763.8	67	19.4	93	W	1	0.4	.....	.....	Fog	.....	N	0	0	Foggy	M. Payne.
*Quebec, Quebec	29.73	755.1	30.05	763.3	55	12.8	93	E	.....	.....	1	0	2s	.....	E	0.29	7.4	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.69	754.1	30.14	765.5	53	11.7	93	Calm	0	0	.....	2ck	Fog	NW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	54	12.5	80	N	.....	.....	1	2k	2ks	NE	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.70	754.4	29.87	758.7	55	12.8	80	N	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.38	746.2	30.07	763.8	68	20.0	78	E	6	2.7	.....	0	Sm'e	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.05	763.3	67.4	19.7	83	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.54	750.3	29.58	751.3	57	13.9	94	N	10	4.5	.....	.....	10n	.....	.....	0.91	23.1	Cloudy	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.11	764.8	66	18.3	71	NE	7	3.1	.....	5cs	Haze	Calm	Calm	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	29.74	755.4	29.76	755.9	57.0	13.9	94	N	8	3.6	.....	.....	10ks	.....	.....	0.91	23.1	Fair	Prof. John E. Oram.
Woodstock, Ontario	29.03	737.3	30.06	763.5	66	18.9	92	N	2	0.9	.....	3cs	0	N	.....	0	0	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.62	752.3	29.67	753.7	55.0	12.8	100	SE	.....	.....	.....	.....	10n	.....	.....	0.25	6.3	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.82	757.4	30.05	763.3	64	17.8	68	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.42	747.3	30.04	763.0	66	18.9	89	SW	2	0.9	.....	5ck	Haze	W	.....	0	0	Fair	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.96	735.6	30.09	764.3	63	17.2	83	NE	9	4.0	.....	10k	0	Calm	.....	0	0	Cloudy	
Atlantic City, New Jersey	29.98	761.5	29.99	761.7	73	22.8	90	NW	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.95	760.7	30.15	765.8	71	21.7	66	Calm	0	0	.....	Haze	2s	Calm	Calm	0	0	Fair	
Baltimore, Maryland	30.00	762.0	30.04	763.0	75	23.9	72	W	5	2.2	.....	8k	Haze	NW	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.97	761.2	29.99	761.7	71	21.7	71	N	12	5.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Bismarck, Dakota	28.18	715.8	30.04	763.0	57	13.9	75	W	6	2.7	.....	2cs	0	S	.....	0.01	0.3	Clear	
Boerne, Texas	28.55	725.2	29.83	757.7	66	18.9	79	NW	2	0.9	.....	2k	0	Calm	.....	0	0	Clear	
Boise City, Idaho	27.40	696.0	30.36	771.1	46	7.8	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.81	757.2	29.96	761.0	63	17.2	72	NW	14	6.3	.....	2k	0	N	.....	0.11	2.8	Fair	
Brackettville, Texas	28.85	732.8	29.84	757.9	72	22.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.97	735.8	29.93	760.2	65	18.3	94	W	3	1.3	.....	.....	10ks	.....	W	0.35	8.9	Cloudy	
Brownsville, Texas	29.78	756.4	29.82	757.4	75	23.9	100	NE	2	0.9	.....	.....	10n	.....	NE	0.46	11.7	Light rain	
Buffalo, New York	29.37	746.0	30.04	763.0	70	21.1	70	E	5	2.2	.....	2ck	Haze	N	Calm	Inap.	Inap	Hazy	
Burkes, Arizona	.....	.....	.....	.....	66	18.9	32	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.77	756.1	30.06	763.5	59	15.0	82	N	6	2.7	.....	.....	10ks	.....	N	Inap	Inap	Cloudy	
Cairo, Illinois	29.80	756.9	30.19	766.8	70	21.1	80	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	40	4.4	65	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.10	764.5	30.10	764.5	70	21.1	90	NE	1	0.4	.....	1c	Haze	Calm	.....	0	0	Hazy	
Cape Henry, Virginia	30.04	763.0	30.06	763.5	71	21.7	66	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.09	764.3	30.11	764.8	70	21.1	85	NE	10	4.5	.....	Haze	0	Calm	.....	0	0	Dense haze	
Cape May, New Jersey	29.95	760.7	29.98	761.5	72	22.2	85	W	20	8.9	.....	2ck	Haze	NW	.....	0	0	Fair	
Castroville, Texas	29.20	741.7	29.88	758.9	72	22.2	80	W	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Charleston, South Carolina	30.03	762.7	30.08	764.0	71	21.7	85	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charlotte, North Carolina	29.30	744.2	30.10	764.5	64	17.8	83	N	2	0.9	.....	10cs	Haze	Calm	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.35	745.5	30.14	765.5	63	17.2	89	Calm	0	0	.....	5cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	46	7.8	26	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.47	748.5	30.14	765.5	73	22.8	63	SW	5	2.2	.....	Haze	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.56	750.8	30.19	766.8	67	19.4	89	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cleveland, Ohio	29.40	746.7	30.09	764.3	72	22.2	71	SW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Coleman City, Texas	28.22	716.8	29.84	757.9	66	18.9	74	Calm	0	0	.....	5ck	0	NE	.....	0	0	Fair	
Columbus, Ohio	29.33	745.0	30.15	765.8	66	18.9	84	SW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Concho, Texas	28.14	714.7	29.76	755.9	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.56	750.8	30.01	762.2	68	20.0	74	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.55	750.6	30.17	766.3	68	20.0	79	SW	1	0.4	.....	2c	0	S	.....	0	0	Clear	
Deadwood, Dakota	25.55	649.0	.....	.....	50	10.0	65	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.88	733.5	30.01	762.2	70	21.1	70	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.28	743.7	30.05	763.3	66	18.9	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.01	635.2	30.23	767.8	58	14.4	42	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.24	742.7	30.09	764.3	73	22.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.43	747.5	30.07	763.8	69	20.6	80	SW	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.50	698.5	29.72	754.9	65	18.3	68	S	8	3.6	.....	5ck	0	S	.....	0	0	Fair	
Dubuque, Iowa	29.45	748.0	30.13	765.3	69	20.6	60	S	8	3.6	.....	10k	Haze	SW	Calm	0	0	Cloudy	
Duluth, Minnesota	29.32	744.7	29.97	761.2	71	21.7	71	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.20	741.7	29.91	759.7	72	22.2	76	NE	2	0.9	.....	0	2s	.....	E	0	0	Fair	
Eastport, Maine	29.82	757.4	29.88	758.9	58	11.7	80	NW	12	5.4	.....	10c;k	0	Calm;N	.....	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.23	666.2	.....	.....	65	18.3	58	Calm	0	0	.....	2k	0	SE	.....	0	0	Fair	
Erie, Pennsylvania	29.37	746.0	30.06	763.5	71	21.7	85	Calm	0	0	.....	10ck	Haze	N	Calm	0	0	Cloudy	
Escanaba, Michigan	29.43	747.5	30.06	763.5	70	21.1	75	SW	4	1.8	.....	0	Haze	.....	SW	0	0	Clear	
Florence, Arizona	28.36	720.3	29.96	761.0	75	23.9	30	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.89	708.4	29.67	753.6	58	14.4	81	NW	12	5.4	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Fort Custer	27.01	686.0	.....	.....	.....	.....	.....	W	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fort Davis, Texas	25.26	641.6	30.22	767.6	55	12.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.56	750.8	30.08	764.0	69	20.6	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	70	21.1	24	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.79	731.3	30.03	762.7	67	29.4	69	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.42	696.5	.....	.....	55	12.8	68	W	9	4.0	.....	2k	5s	W	Calm	0	0	Fair	
Fort McKavett, Texas	27.77	705.4	29.65	753.1	63	17.2	67	NE	1	0.4	.....	0	4s	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.86	733.0	29.94	760.5	63	17.2	83	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.11	714.0	.....	.....	54	12.2	73	W	5	2.2	.....	2ck	0	W	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	58	14.4	48	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.12	714.2	29.61	752.1	75	23.9	77	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.90	759.4	29.94	760.5	75	23.9	81	NE	17	7.6	.....	1ck;hs	0	Calm	.....	0	0	Clear	
Graham, Texas	28.95	735.3	29.96	761.0	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.50	749.3	30.12	765.0	74	23.3	63	W	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.08	738.6	29.93	760.7	67	19.4	79	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.41	747.0	30.18	766.6	67	19.4	84	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Indianola, Texas	29.91	759.7	29.94	760.5	78	25.6	78	NE	18	8.0	.....	2c	0	SW	.....	0	0	Fair	
Jacksboro, Texas	28.91	734.3	29.99	761.7	69	20.6	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.00	762.0	74	23.3	90	E	8	3.6	.....	.....	10n	.....	Calm	2.24	56.9	Light rain	
Keokuk, Iowa	29.52	749.8	30.11	764.8	68	20.0	84	S	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Key West, Florida	29.90	759.4	29.93	760.2	81	27.2	78	S	14	6.3	.....	5k	0	SE	.....	0.40	10.2	Fair	
Kittyhawk, North Carolina	30.01	762.2	30.04	763.0	71	21.7	75	W	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.19	741.4	30.18	766.6	64	17.8	83	NE	2	0.9	.....	2cs	Fog	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.37	746.0	30.08	764.0	70	21.1	80	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	61	16.1	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.50	749.3	29.83	757.7	81	27.2	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.27	743.4	30.08	764.0	70	21.1	66	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.78	756.4	30.13	765.3	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.57	744.3	29.83	757.7	62.0	16.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.63	752.6	30.17	766.3	67	19.4	84	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.45	748.0	30.11	764.8	72	22.2	75	Calm	0	0	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Madison, Wisconsin	29.15	740.4	30.10	764.5	60	20.6	89	SW	6	2.7	.....	1cs	Haze	W	Calm	0	0	Hazy	
Marquette, Michigan	29.32	744.7	29.98	761.5	78	25.6	57	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.39	721.1	30.10	764.5	67	19.4	64	Calm	0	0	.....	0	2s	.....	SW	0	0	Fair	
Memphis, Tennessee	29.81	757.2	30.14	765.5	69	20.6	79	NE	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.49	748.7	30.10	764.5	70	21.1	75	W	10	4.5	.....	1ck	0	Calm	.....	0	0	Clear	
Mobile, Alabama	29.94	760.5	29.98	761.5	74	23.3	86	NE	7	3.1	.....	0	5s	.....	E	0	0	Fair	
Montgomery, Alabama	29.85	758.2	30.08	764.0	72	22.2	58	NE	7	3.1	.....	5k	2ks	E	E	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.10	740.7	30.11	764.8	69	20.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.....	23.83	605.3	30.19	766.8	38	3.3	100	NE	12	5.4	.....	.....	Fog	.....	NE	0.83	21.1	Foggy	
Nashville, Tennessee.....	29.03	752.9	30.16	766.1	68	20.0	79	Calm	0	0	.....	1cs	Sm'e	Calm	Calm	0	0	Smoky	
New Haven, Connecticut....	29.87	758.7	29.98	761.5	70	21.1	66	N	10	4.6	.....	0	Haze	.....	Calm	0	0	Clear	
New London, Connecticut..	29.92	760.0	29.97	761.2	69	20.6	66	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.	
New Orleans, Louisiana.....	29.86	758.4	29.92	760.0	78	25.6	69	NE	17	7.6	.....	0	1s	.....	Calm	c	0	Clear.....	
Newport, Rhode Island.....	29.91	759.7	29.96	761.0	65	18.3	68	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York.....	29.83	757.7	30.00	762.0	70	21.1	66	N	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear...	
Norfolk, Virginia.....	30.01	762.2	30.07	763.8	70	21.1	70	SW	6	2.7	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
North Platte, Nebraska	27.22	691.4	29.76	755.9	58	14.4	78	NE	16	7.2	.....	.....	10s	.....	NW	0.06	1.5	Cloudy.....	
Olympia, Washington Ter..	30.11	764.8	30.15	765.8	51.7	10.8	100	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska.....	29.66	753.3	30.01	762.2	69	20.6	70	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Oswego, New York.....	29.79	756.7	30.11	764.8	65	18.3	73	NE	8	3.6	.....	8c	0	NE	.....	0	0	Fair.....	
Pembina, Dakota.....	29.01	736.8	29.81	757.2	57	13.9	94	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pa.....	29.96	760.7	30.00	762.0	74	23.1	76	N	14	6.3	.....	0	Haze	.....	Calm	0	0	Hazy.....	
Phœnix, Arizona.....	28.68	728.5	30.42	772.7	70	21.1	30	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	17.07	456.4	30.18	766.6	29	— 1.7	84	SW	21	9.4	.....	0	Haze	.....	.....	0	0	Hazy.....	
Pilot Point, Texas.....	29.06	738.1	29.84	757.9	80	26.7	78	N	11	4.9	.....	2k	0	NE	.....	0	0	Fair	
Pioche, Nevada.....	24.24	615.7	30.01	762.2	48.6	9.2	29	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania....	29.31	744.5	30.09	764.3	71	21.7	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan.....	29.42	747.3	30.06	763.5	68	20.0	74	W	6	2.7	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
Portland, Maine.....	29.92	760.0	29.97	761.2	60	15.6	58	N	12	5.4	.....	10k	0	NW	.....	0.21	5.3	Cloudy.	
Portland, Oregon.....	30.09	764.3	30.16	766.1	55.3	12.9	97	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Prescott, Arizona.....	24.85	630.7	30.19	766.8	45	7.2	76	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida.....	29.56	758.4	29.87	758.7	77	25.0	91	E	13	5.8	.....	.....	10ks	.....	SE	0.61	15.5	Cloudy.....	
Red Bluff, California.....	29.00	750.8	29.90	759.4	74	23.3	32	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas.....	29.73	755.1	29.94	760.5	75	23.8	90	Calm	0	0	.....	.....	10s	.....	NE	0.07	1.8	Threatening	
Rochester, New York.....	29.49	749.0	30.09	764.3	67	19.4	74	NE	1	0.4	.....	Sm'e	Sm'e	.....	Calm	0	0	Smoky.....	
Roseburg, Oregon.....	29.65	753.3	30.16	766.1	52	11.1	93	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California.....	29.79	756.7	29.87	758.7	63	17.2	72	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.60	751.8	30.16	766.1	67	19.4	89	SE	2	0.9	.....	0	Fog	.....	.....	0	0	Clear.....	
St. Marks, Florida.....	29.94	760.5	29.96	761.0	74	23.5	81	NE	12	5.4	.....	.....	10s	.....	E	0.01	0.3	Cloudy.....	
St. Paul, Minnesota.....	29.21	741.9	30.01	762.2	66	18.9	84	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah.....	25.88	657.3	30.21	767.3	48	8.8	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas.....	29.31	744.5	29.87	758.7	75	23.9	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.77	756 1	29.84	757.9	67	19.8	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.49	749.0	30.14	765.5	71	21.7	75	SW	11	4.9	.....	Haze	Sm'e	Calm	Calm	0	0	Clear.....	
Sandy Hook, New Jersey....	29.87	761.2	30.00	762.0	69	20.6	75	N	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear.....	
San Francisco, California..	29.82	757.4	29.88	758.9	61	16.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.41	594.6	29.95	760.7	60	15.6	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia.....	29.99	761.7	30.08	764.0	72	22.2	90	NE	6	2.7	.....	.....	10s	.....	SE	0.05	1.3	Cloudy.....	
Shreveport, Louisiana.....	29.81	757.2	30.02	762.5	67	19.4	84	N	3	1.3	.....	5k	2ks	SE	SE	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.10	764.5	30.14	765.6	72	22.2	85	N	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy.....	
Socorro, New Mexico.....	25.47	646.9	29.53	750.0	63	17.2	47	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Springfield, Ill.....	29.53	750.0	30.10	765.0	66	18.9	79	SE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Springfield, Massachusetts	29.87	758.7	30.00	762.0	67	19.4	64	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas.....	26.92	683.8	29.92	760.0	71	21.7	11	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass....	29.94	760.5	29.99	761.7	59	15.0	94	N	12	5.4	.....	.....	10s	.....	NW	0.57	14.5	Cloudy.....	
Toledo, Ohio, ...	29.44	747.8	30.10	764.5	71	21.7	75	W	7	3.1	.....	Haze	0	.....	.....	0	0	Clear.....	
Tucson, Arizona.....	27.44	697.0	30.00	762.0	77	25.0	41	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon.....	29.85	757.7	30.32	770.1	58.1	14.5	59	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas.....	29.06	738.1	29.85	758.2	74	24.5	76	Calm	0	0	.....	5k	0	NE	.....	0	0	Fair.....	
Vicksburg, Mississippi.....	29.77	756.1	30.02	762.5	72	22.2	67	E	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana.....	24.62	622.8	30.10	762.0	36	2.2	70	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Visalia, California.....	29.61	749.5	29.87	758.7	68.6	14.7	64	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.....	29.93	760.2	30.04	763.0	76	24.4	69	NW	10	4.5	.....	5c	Haze	NW	Calm	0	0	Dense haze.	
Wickenburg, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina.....	30.04	763.0	30.12	765.0	67	19.4	74	NE	3	1.3	.....	5cs	Haze	Calm	Calm	0	0	Hazy.....	
Winnemucca, Nevada.....	25.82	655.8	30.18	766.6	45	7.2	89	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass.....	29.89	759.2	29.92	760.0	64	17.8	72	N	12	5.4	.....	0	5ks	.....	NE	0	0	Fair...	
Yankton, Dakota.....	28.78	731.0	30.03	762.7	68	20.0	65	SW	3	1.3	.....	5cs	0	SW	.....	0	0	Fair.....	
Yuma, Arizona.....	29.64	752.8	29.80	756.9	79	26.1	17	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I.....	29.83	757.7	29.88	758.9	78	25.6	90	SE	2.4	1.1	.....	10c	4n	Calm	SE	1.15	29.2	Cloudy.....	Chas. Hasselbrink
Kingston, Jamaica, W. I....	30.17	766.3	30.18	766.6	78	25.6	91	SE	.....	.....	.....	8ck	2n	Calm	.....	0.16	4.1	Cloudy	James Gall.
Medellin, Colombia, S. A.*	25.28	642.1	.....	.....	64.8	18.2	84	Calm	.....	.....	0	1k	1ks	.....	.....	0.57	14.5	.....	Thomas Herran.
Navassa, W. I.....	29.91	759.7	29.99	761.7	84	28.9	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.04	763.0	30.04	763.0	82	27.8	71	NE	.....	.....	2	3c	5k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I....	29.99	761.7	30.01	762.2	79	26.1	82	Calm	0	0	.....	4c	2k	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	29.64	752.8	29.86	758.1	83	28.3	83	SE	4	1.8	.....	2c	5ks	E	.....	0.36	9.1	Clear	G. O. Gellich.
York Factory, B. A.....	30.14	765.5	30.18	766.6	42.0	5.6	96	W	6	2.7	.....	1c	0	SW	.....	0	0	Fair.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Colemman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,488 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,208 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,060 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,600 (?) ft., or 549 (?) m.; Medellin, 4,665 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,450 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 626 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.500 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 3.57 in., or 90.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis,4.96in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fe, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in.,or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Characters.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.10‡	764.6‡	.....	.....	77	25.0	82	NE	15	6.7	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡	.....	.....	80	26.7	87	SW	.....	.....	4	1c	.....	.....	SW	0	0	.....	.....	Fair	
Adams. Mare I'd., Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	65	18.3	100	WSW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Mazatlan, Mexico	29.85‡	758.2‡	.....	.....	81	27.2	91	N	.....	.....	3	.....	5	.....	S	0.03	0.8	.....	.....	D. clouds	
Alliance, Spit Head, Eng.	29.99‡	761.7‡	.....	.....	63	17.2	72	SW	.....	.....	3	.....	9	.....	SW	.....	.....	.....	.....	D. clouds	
Ashuelot, Yokohama, Japan	29.86‡	758.4‡	.....	.....	81	27.2	91	SSW	.....	.....	4	.....	2	.....	.....	.....	.....	Mod'ate	.....	Clear	
Colorado. New York, N. Y.	29.97‡	761.2‡	.....	.....	72	22.2	62	NNW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constellation, Annapolis, Md.	30.01‡	762.2‡	.....	.....	75.3	24.1	72	WNW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Constitution. Navy Yard, Brooklyn, N.Y.	30.00‡	762.0‡	.....	.....	71	21.7	71	W	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, Cowes, England	30.05‡	763.3‡	.....	.....	63	17.2	100	NW	.....	.....	3	.....	6	.....	NNW	.....	.....	Mod'ate	.....	Cloudy	
Essex, S 13° 10′, W. 38° 26′	30.23‡	767.8‡	.....	.....	74	23.3	86	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	Mod'ate	SE	Cloudy	
Franklin. Norfolk, Va.	30.09‡	764.3‡	.....	.....	69	20.6	75	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford. Rio de Janeiro, Brazil	30.24‡	768.1‡	.....	.....	71	21.7	71	NNW	.....	.....	2	.....	5?	.....	NW	0	0	.....	.....	Clear?	
Independence, Mare I'd. Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	69	20.6	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Kearsarge, N. 45° 30′, W. 60° 00′	29.61‡	752.1‡	.....	.....	59	15.0	82	WNW	.....	.....	3–4	.....	2	.....	WNW	.....	.....	Long	WNW	Fair	
Lackawana, Apia, Samoa Is.	29.86‡	758.4‡	.....	.....	75	23.9	86	S	.....	.....	2	.....	8	.....	S	.....	.....	Smooth	.....	Cloudy	
Michigan, Milwaukee, Wis.	30.06‡	763.5‡	.....	.....	73	22.8	85	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Cheefoo, China	29.94‡	760.5‡	.....	.....	77	25.0	86	NNE	.....	.....	1	.....	10	.....	NNE	.....	.....	.....	.....	Misty	
Monongahela, N. 35° 16′, E. 140° 26′	29.90‡	759.4‡	.....	.....	81	27.2	83	SSW	.....	.....	5	.....	k	.....	.....	0	0	Mod'ate	S	D. clouds	
New Hampshire. Port Royal, S. C.	30.06‡	763.5‡	.....	.....	73	22.8	90	ENE	18	8.0	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Onward, Callao, Peru†	30.01‡	762.2‡	.....	.....	62	16.7	88	N	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Chefoo, China	29.93‡	760.2‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	
Passaic, Washington, D. C.	30.04‡	763.0‡	.....	.....	76	24.4	91	W	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Iquique, Peru	30.04‡	763.0‡	.....	.....	62	16.7	77	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth. S.W.Harbor, Mt.Desert, Me.	29.95‡	760.7‡	.....	.....	56	13.3	94	N	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Powhatan, New York City, N. Y.	30.00‡	762.0‡	.....	.....	69	20.6	75	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Venice, Italy	29.97‡	761.2‡	.....	.....	82	27.8	67	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Yokohama, Japan§	29.85‡	758.2‡	.....	.....	83	28.3	87	SSW	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	D. clouds	
Richmond, Yokohama, Japan	29.86‡	758.4‡	.....	.....	81	27.2	91	SSW	.....	.....	5–6	.....	2	.....	SSW	0	0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	29.83‡	757.7‡	.....	.....	77	25.0	100	NNE	.....	.....	1	.....	10	.....	NNE	0.80	20.3	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.02‡	762.5‡	.....	.....	75	23.9	77	NW	.....	.....	1	.....	10	.....	NW	.....	.....	.....	.....	Hazy	
Saratoga, New London, Conn.	29.96‡	761.0‡	.....	.....	66	18.9	89	N	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Blue sky	
St. Louis, League Island, Pa	30.01‡	762.2‡	.....	.....	75	23.9	86	NNE	4	1.8	.....	.....	8	.....	NNW	0	0	.....	.....	Misty	
Trenton, N. 50° 40′, W. 0° 59′	30.00‡	762.0‡	.....	.....	64	17.8	62	W	.....	.....	2	.....	2	.....	S;W	0	0	Smooth	.....	Fair	
Tuscarora, Mare Isl. Navy Yard, Cal	29.91‡	759.7‡	.....	.....	67	19.4	84	SW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Vandalia, Navy Yard, Pensacola, Fla.	29.93‡	760.2‡	.....	.....	76	24.4	82	NE	.....	.....	4	.....	5	.....	E	.....	.....	Mod'ate	E	Fair	
Wabash, Boston, Mass.	29.91‡	759.7‡	.....	.....	63	17.2	72	NNW	5	2.2	.....	.....	5	.....	.....	0.02	0.5	.....	.....	Fair	
Wachusett, Portsmouth, N. H.	29.94‡	760.5‡	.....	.....	64	17.8	83	NNW	.....	.....	2	.....	5	.....	NNW	.....	.....	.....	.....	Fair	
Wyoming, Constantinople, Turkey	30.03‡	762.7‡	.....	.....	75	23.9	64	NNE	.....	.....	4–6	.....	2	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity

†Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7.35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction						
											Up'er	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima, N. 7° 10′, W. 50° 27′ †.		30.00‡	762.0‡	78	25.6	91	WSW			2		3		Calm	0	Small	SW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse,																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connors.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia.		30.22‡	767.6‡				SE			3				SE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. V. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China †.		29.66‡	753.4‡	82	27.8	96	E			4		7cs							D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 38° 05′, W. 155° 15′ †.		30.40‡	772.1‡	67	19.4		NNW			3		k		NW	0	Smooth	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 55′, W. 5° 12′		30.01‡	762.2‡	65	18.3	68	WSW			3		5		WSW		Light	WSW	Cloudy?	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer,																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 14′, W. 2° 27′		30.02‡	762.5‡				WSW			1		5				4	WSW	Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. N. 40° 33', W. 69° 38'		29.87‡	758.7‡	59	15.0	92	NW			7		8		NW	Mod'ate	Smooth		Clear	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 31° 31', W. 80° 44'		30.03‡	762.7‡	79	26.1	86	NE	11	4.9			10		NE	0	Swell	NE	Overcast	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 34° 00', W. 68° 45'		29.95‡	760.7‡				N			4		0				Smooth			N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 18° 08', W. 44° 54'		30.09‡	764.3‡	81	27.2	85	NE			5		4				4	E	Misty	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.																			

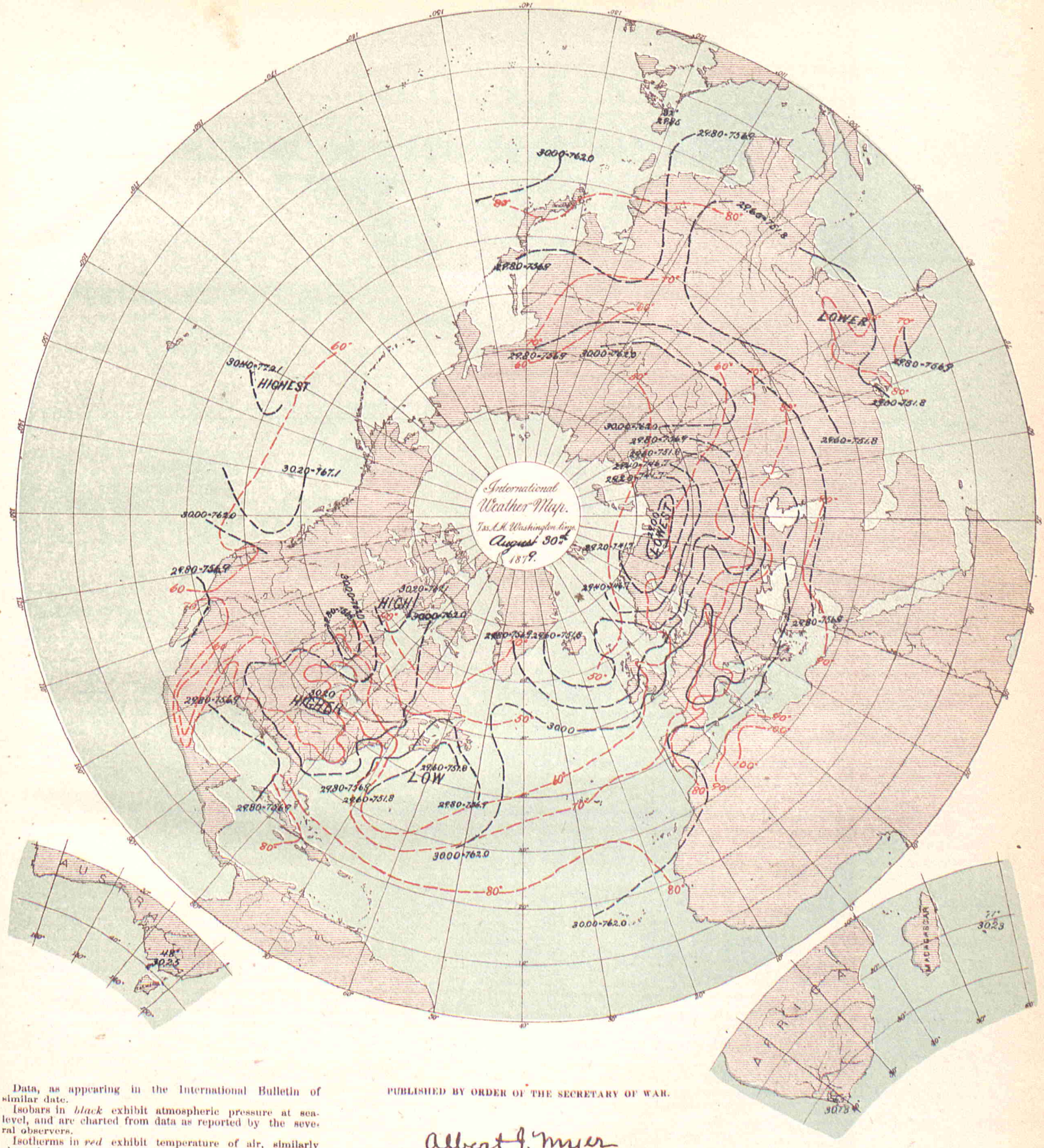
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 31, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—.	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.00	762.0	70.2	21.2	87	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.95	760.8	81.0	27.2	75	Calm	.....	.....	0	.....	5	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.97	761.2	83.1	28.4	70	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.01	762.2	83.5	28.6	82	NNE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.96	761.5	85.1	29.5	28	N	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.07	763.8	92.8	33.8	28	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	74.3	23.5	36	S	.....	.....	2	.....	5	.....	.....	Inap.	Inap.	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.03	762.8	93.6	34.2	29	SE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.00	761.9	103.3	39.6	23	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—.	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.40	746.8	29.92	759.9	80.4	30.2	55	NE	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.3	30.04	763.0	76.6	24.8	55	NNE	9.6	4.3	.....	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.13	739.9	29.97	761.1	78.1	25.6	66	NE	.....	.....	2	c	5s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.74	729.9	29.92	760.0	78.1	25.6	70	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.60	726.5	29.94	760.4	86 9	30.5	46	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.71	729.1	29.98	761.6	76.3	24.6	83	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.2	30.01	762.2	77.4	25.2	69	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.82	757.4	29.93	760.1	82.8	28.2	69	WNW	.....	.....	3	.....	0	.....	.....	0	0	.....	I.R.HydrographicOffice.
Szathmar	29.54	750.2	29.98	761.5	88.9	31.6	47	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Pet Pancsics.
Szegedin	29.64	752.8	29.90	759.4	83.5	28	57	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.85	758.3	29.96	760.9	83.7	28.7	71	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.30	744.1	30.04	763.1	79.2	26.2	61	N	.....	.....	2	.....	0	.....	.....	0	0	.....	I. R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—.	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.76	755.9	29.85	758.2	54.0	12.2	.....	WNW	20	8.9	.....	.....	4	.....	.....	0.010	0.25	D. clouds....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm McNeil &G.Carrick
Armagh, Observatory	29.87	758.7	30.10	764.5	53.1	11.7	.....	NNW	5	2.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.06	763.5	55.4	13.0	.....	W	30	13.4	.....	.....	4	.....	.....	.....	.....	D. clouds....	John Hartnup.
Bolton (Sharples)	.....	.....	30.10	764.5	53.0	11.7	.....	WNW	36	16.1	.....	.....	6	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.18	4.6	.....	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	82.5	28.1	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.98	761.5	30.07	763.8	62.6	16.7	.....	SSW	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	30.19	764.3	59.0	15.0	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.98	761.5	30.11	764.8	62.9	17.2	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R. E.
Donaghadee	30.01	762.2	30.05	763.3	58	14.4	.....	WNW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.10	764.5	30.13	765.3	63	17.2	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	¼ clouded...	J. Costello.
Falmouth, Observatory	29.98	761.5	30.21	767.3	59.2	15.1	.....	WNW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier (Natal)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	756.4	29.91	762.2	78	25.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling....	
Galway, Queen's College	.....	.....	30.11	764.8	59	15.1	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.85	758.2	29.90	759.4	66.2	30.1	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.73	755.1	29.94	760.5	55.7	13.2	.....	WNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	30.03	762.7	30.03	762.7	62	16.7	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.11	764.8	59.0	15.0	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	The Staff, for G.B.Airy.
Guernsey	29.99	761.7	30.20	767.1	61	16.1	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S.E.Hoskins,F.R.S.
Helston	30.09	764.3	30.21	767.5	63	17.2	.....	NW	.....	.....	2	2c	.....	.....	.....	0.04	1.0	Very fine....	M. P. Moyle.
Holyhead	30.11	764.8	30.13	765.3	57	13.9	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.95	760.7	30.24	768.1	60.4	15.8	.....	WNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew, Observatory	30.08	764.0	30.12	765.0	60.0	15.6	.....	W	11	4.9	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Leicester, Museum	29.80	756.9	30.06	763.5	56.4	13.3	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	82.0	27.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.80	756.9	29.90	759.4	55	12.8	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau (Bahamas)	.....	.....	29.96	761.7	83.2	28.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.88	758.9	30.07	763.8	62.7	17.1	.....	WNW	.....	.....	5	.....	5k	.....	W	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.55	750.6	30.07	763.8	60.2	15.7	.....	WSW	.....	.....	4-5	.....	3	.....	.....	Blank	Blank	D. clouds....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.10	764.5	60	15.6	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	H. E. Bellamy.
Plymouth	30.11	764.8	30.18	766.6	61.5	16.4	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.11	764.8	30.24	767.8	59	15.0	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.87	758.7	48.4	9.1	.....	NW	32	14.3	.....	.....	5	.....	.....	.....	.....	Showery	Rev.C.Clouston,L.L.D
Scutari, Cemetery (Turkey)	29.81	757.2	29.87	758.7	67.8	31.0	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Serg't.W. H.Lyne.
Sheffield	29.76	755.9	30.03	762.7	59.7	15.4	.....	W	.....	.....	6	.....	5	.....	.....	Blank	Blank	D. clouds....	W. F. Cooper.
Silloth Rectory	29.94	760.5	29.97	761.2	58.0	14.4	77	W	.....	.....	6	.....	8	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	.....	.....	30.03	762.7	55.4	13.0	.....	WSW	22	9.8	.....	.....	10	.....	.....	.....	.....	Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	61.9	16.6	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	Rev .C.H.Griffith,F.M.S.
Truro, Royal Institution	30.17	766.3	30.24	768.1	65	18.3	.....	NW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	30.16	766.0	30.20	767.1	56.7	13.7	.....	W	14	6.3	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.21	767.3	30.24	768.1	63.5	17.5	.....	SSE	18.0	8.0	.....	2	4	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.95	760.7	49.8	9.8	.....	W	.....	.....	3	.....	10k	.....	.....	0.11	2.8	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	30.05	763.3	30.24	768.1	70.8	21.6	71	ESE	18.0	8.0	.....	0	8	.....	ESE	0.22	5.6	Squally.....	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	57.0	14.2	75	ESE	8	3.6	.....	.....	0	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.95	760.7	.....	.....	.....	NW	.....	.....	4	3	5	W	.....	0.20	5.1	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	25.92	658.4	.....	.....	76.6	24.7	.....	WNW	.....	.....	.....	0	2cs	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 8 a. m.; Mauritius, 9 a. m.; Sheffield, (following day) 9 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 05' E. 28° 15'	.....	.....	Squally.....	Capt. W. J. L. Wharton.
Gordon Castle, N. 40° 55', W. 62° 45'	5	NW	Overcast.....	.....
German Brig "W. von Freeden"	.....	.....	.....	Capt. H. v. Freeden.
Theophane	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore	.....	.....	.....	Capt. J. W. Thorne.
S. S. Royal Alexandra	.....	.....	.....	W. P. Hughes.
Brig Alliance	.....	.....	.....	Capt. W. Scott.
S. S. Iron Cross	.....	.....	.....	Capt. W. Randall.
S. S. Nizam	.....	.....	.....	Capt. Barlow.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.
British Peer	.....	.....	.....	Capt. Raymond.
Astarte	.....	.....	.....	Capt. Parson.
Agnes Wilson	.....	.....	.....	Capt. H. W. Dyke.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
Atmosphere	.....	.....	.....	Capt. Wm. Watson.
Algeria	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. †Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	BAROMETER. Corrected or instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Low'r. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
San José	26.25	666.7	29.97	761.2	64 8	18.2	90	SE	.....	.....	2	4ck;cs	.....	.....	.....	0.4	10.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at followin g midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.93	760.2	29.98	761.4	59.9	15.5	79	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	29.88	758.9	29.90	759 4	59.4	15.2	78	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.68	753.8	29.72	754.9	43.0	6.1	63	NNE	.....	.....	6	.....	0	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.24	742.8	29.29	743.9	50.5	10.3	81	S	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.76	756.0	29.80	756.9	49.3	9.6	65	W	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	29.72	755.0	29.84	757.8	58.1	14.5	83	SSW	.....	.....	4	.....	3	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.67	753.7	30.23	767.7	63.7	17.6	67	N	.....	.....	1	.....	2k	.....	NNW	0.024	0.6	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.12	765.0	30.23	767.7	64.2	19	79	WSW	.....	.....	3	.....	2	.....	E	0	0	Slightly cl'dy	Bonvallet, Director.
Arras, Engin'r School	29.91	759.6	30.16	766.1	61.5	16.4	60	NW	.....	.....	3	.....	.....	.....	NW	Imap.	Imap.	.....	Klein, Commandant.
Avignon, Normal School	29.95	760.6	30.02	762.6	68.7	31.3	44	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Par-sur-Seine	29.63	752.7	30.18	766.6	64.9	18.3	67	ENE	.....	.....	1	.....	8kn	.....	SW	0.142	3.6	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.96	760.9	30.22	767.6	65.3	18.5	65	NW	.....	.....	2	.....	5	.....	W	0	0	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.28	743.8	30.16	766.1	66.9	19	81	E	.....	.....	1	.....	10	NE	.....	0.004	0.1	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.0	30.18	766.6	67.1	19 5	74	N	.....	.....	1	.....	5n	.....	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.64	752.8	30.19	766.7	65.5	18.6	75	NNE	.....	.....	1	c	.....	NE	NE	0	0	.....	M. Gence, Director.
Brest, Naval Observatory	29.94	760 4	30.18	766.5	69.1	20.6	59	WNW	.....	.....	1	.....	4	.....	WNW	0	0	.....	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.58	751.4	29.98	761.4	82 4	28	46	N	.....	.....	1	.....	8	ESE	WNW	0	0	Very cloudy	September, Dir.
Caen, Normal School	30.09	764.2	30.16	766.0	65.1	18.4	67	NW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	M. Bletrin, Director.
Chartres, Normal School	29.99	761.8	30.15	765.8	67.6	19.8	72	NNW	.....	.....	2	.....	6	.....	NW	0.20	5.	.....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.86	758.4	30.17	766.4	62 4	16.9	61	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.82	731.9	30.16	766.1	61.0	16.1	89	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.32	744.6	30.17	766.2	62.6	17	70	NW	.....	.....	1	.....	5kn	NW	NW	0.08	2.	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	29.95	760.4	30.10	764.4	85.6	29.7	42	N	.....	.....	1	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.28	743.7	30.01	762.3	77.4	25.2	76	NW	.....	.....	7	.....	k	.....	.....	0	0	.....	Ablard, Director
La Roche-sur-Yon, N. School	30.10	764.5	30.31	769.9	64.0	17.8	62	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.91	759.6	30.21	767.3	64.4	18	67	N	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Barrier, Director
Lons-Le-Saulnier, N. School	29.23	742.4	30.12	765.1	68.3	17.4	88	NNW	.....	.....	1	.....	.....	NNW	NNW	0	0	Foggy	A. Baudry, Director.
Lorient, Naval Observatory	30.13	765.2	30.23	767.8	62.6	17.0	81	S	.....	.....	1	.....	.....	.....	S	0.063	1.60	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.50	749.4	30.11	764.8	69.1	20.6	76	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Guinn, Director.
Marseilles, Observatory	29.74	755.4	30.00	762.0	85.8	29.9	52	WSW	.....	.....	1	.....	2	.....	W	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	29.13	739.9	30.16	766.0	64.2	17.9	82	N	.....	.....	1	.....	10n	N	N	.....	.....	Covered	Barbier, Director
Mont-Louis	25.04	636.1	30.30	771.1	79.7	26.5	33	SW	20.6	9.2	.....	.....	10	.....	S	.....	.....	Raining	M. Cave.
Nice	29.98	761.6	30.02	762.5	80.2	26.8	73	S	.....	.....	1	.....	1	S	S	0	0	Clear	M. Boissieré, Director.
Nismes, Normal School	29.81	757.0	30.04	762.8	91.4	33	57	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.92	759.9	.....	.....	65.5	18.6	60	WNW	.....	.....	1	.....	5	.....	NW	0.004	0.1	.....	Marie Davy, Director
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.75	577.8	.....	.....	60.8	16 0	.....	S	.....	.....	2	.....	10	N	S	0.03	0.9	Threatening	Gen'l de Nansouty.
Perpignan	29.96	761.0	30.07	763.6	83.8	28.8	37	NW	5.6	2.5	.....	.....	5	.....	W	0	0	.....	Dr. Fines.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.35	643.8	.....	.....	52.2	11.2	100	W	.....	.....	2	.....	.....	.....	.....	0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	75 2	24.0	54	NE	.....	.....	1	.....	5	.....	NE	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.11	764.7	30.19	766.9	66.4	19 1	52	SW	.....	.....	1	.....	5	SW	W	0.016	0.4	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.8	30.22	767.6	64.8	18.3	63	WNW	.....	.....	2	.....	1	WNW	WNW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.02	762.6	30.19	766.9	67.1	19.5	55	W	.....	.....	1	.....	5	WSW	WNW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.12	739 6	30.18	766.5	68.0	20	91	S	.....	.....	2	.....	2	NW	W	0	0	Slightly cl'dy	T. Huguet, Director
Toulouse, Observatory	29.45	747.9	30.17	766.3	72.3	22.4	60	NW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	M. Julier Mercadier.
Tours	30.00	762.0	30.20	767.0	66.6	19.2	54	NNW	.....	.....	1	.....	5	W	N	0.051	1.3	½ covered	Cousin-Marquet.
Versailles, Observatory	29.71	754.6	30.20	767.1	64.0	17.8	63	NW	.....	.....	1	.....	.....	.....	.....	0.004	0.08	.....	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.32	744.8	30.02	762.5	68.0	20	86	N	.....	.....	3	.....	8	.....	N	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.82	757.5	29.85	758.2	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Zi-Ka-Wei (near Shanghai)	29.82	757.4	29.85	758.1	79.0	26.1	92	E	8.7	3.9	.....	7c	.....	W	.....	0	0	Cloudy	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force on the scale 0 to 6, except for Saint Maur 0 to 7, and for Mont Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi (P), Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m, or 1,056 ft. Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit. 2,677 m., or 8,438 ft. Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.20	741.7	30.04	763 1	64.2	17.9	76	W			2		5	W		0	0		Prof. Dr. Hoh.
Berlin	29.93	760.2	30.10	764.5	66.4	18.9	62	W			1		10			0.024	0.6		Prof. Dr. Arndt.
Breslau	29.56	750.7	30.09	764.2	71.8	22.1	60	SE			3		2			0	0		Royal University Ob's'y.
Carlsruhe	29.71	754.7	30.14	765 5	64.0	17.8	85	NE			0		10	NE		0.126	3.2	Raining	Albert Senz.
Cassel	29.50	749.2	30.11	764.7	67.5	19.7	64	SSW			2		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.93	760.2	30.09	764.3	67.6	19.8	64	W			4		4k			0	0		Director Lose.
Emden			30.00	762.1	62.4	16 9	75	W			5		2			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.75	755.7	30.11	764.9	70.0	21.1		S			2		7			0.067	1.7		Physical Society.
Freienwalde on the Oder																			Dr. Assmann.
Friedrichshafen	28.65	727.8	30.04	762.9	72.7	22.6	80	SW			4		7	WSW		0.091	2.3		M. Wilhelm.
Hamburg	29.96	761.0	30.03	762.7	64.4	18.0	62	SW			5		6ck;ks			0	0	Fair	Captain F. Hegemann.
Kiel	29 98	761.5	30.00	761.9	63.5	17 5	53	WSW			3		8			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.02	762.0	30.11	764.7	63.7	17.6	67	SW			5		2			0	0		Prof. E. Luther.
Köslin			30.01	762.9	66.7	19 3		SW			2		2			0	0		H. Müller.
Leipsic Observatory	29.68	753.8	30.09	764.3	65.1	18.4	73	SW			1		10	WSW		0.055	1.4	Raining	Prof. Bruhns, Privy Counselor.
Memel	30.01	763.1	30.09	764.3	61.7	16.5	68	W			4–5		1ck						Skalweit.
Munich (München)	28.27	718.1	30.14	765.6	75.2	24.0	61	W			3		4			0.028	0.7		Dr. C. Lang.
Neufahrwasser	30.09	764.2	30.10	764.6	64.8	18.2	82	E			2		7	WSW		0	0		A. Lothes.
Posen	29.79	756.7	30.08	763.9	66.4	19.1	67	NW			1		10			0.031	0.8		Dr. Magener.
Strassburg (in Alsace)	29.63	752.5	30.17	766.2	64.2	17.9	79	NE			1		10	N		0.083	2.1		Imp. University Observatory.
Stuttgart	29.15	740.5	30.08	764.0	62.6	17.0	80	NW			1		10			0.024	0.6		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.61	726.6	30.08	763.9	66.0	18 9	70	NNW	7	3			10		W	0	0	Light fog	T. Hopfner.
Wustrow	30.01	762.2	30.04	762.9	62.8	17.1	79	SSW			2		6s			0.012	0.3		E. Schultz, Director
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0 instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.2	29.91	759.6	88.2	31.2		NE			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.6	29.60	751.9	83.6	28.7	73	WNW	21.0	9.4			2			0	0	D. clouds	
Deesa	29.12	739.8	29.59	751.6	85.3	29.6	72	WSW	7.8	3.4			0		NNE	0	0	D. clouds	
Bombay	29.63	752.6	29.67	753.6	79.8	26.6	84	WNW	14.0	6.3			10		W	0.62	15.7	Overcast	
Poona	27.83	706.8	29.69	754.2	72.0	22.2	90	W	13.0	5.8			10	Calm	WNW	0.12	3.0	Drizzling	
Lahore	28.99	736.1	29.64	752.8	82.0	27.8	73	E	4.5	2.0			4			0.07	1.8	D. cloudg	
Belgaum	27.20	690.8	29.77	756.1	67.8	19.9	95	W	17.0	7.6			10	W	W	0.87	21.6	Drizzling	
Roorkee	28.67	728.1	29.54	750.4	80.8	30.4	69	Calm	2.6	1.2			1			0.08	2.0	D. clouds	
Agra	28.99	736.3	29.54	750.4	84.7	29.3	83	W	6.8	2.6			2		Calm	0	0		
Nagpur	28.50	723.7	29.53	750.1	77.7	25.4	92	Calm	3.4	1.5			9		SE	1.40	35.6	D. clouds	
Lucknow	29.15	740.3	29.52	749.7	84.0	28.9	83	NE	4.0	1.8			8		SSW	0.84	21.3	D. clouds	
Allahabad	29.23	742.5	29.54	750.3	86.3	30.2	78	ENE	5.3	2.4			3			0	0	D. clouds	
Patna	29.40	746.8	29.58	751.3	87.6	30.9	77	Calm	0.6	0.3			6	Calm	Calm	0	0	D. clouds	
Hazaribagh	27.59	700.8	29.58	751.2	80.6	27.0	76	E	10.8	4.8			7			0.08	2.0	Thunder-storm	
Cuttack	29.50	749.3	29.58	751.3	83.6	28.7	82	ENE	5.0	2.2			6			0.21	5.3	D. clouds	
Calcutta (Alipore)	29.57	751.1	29.59	751.6	81.7	27.6	91	ESE	4.0	1.8			10		SE	0.08	2.0	Overcast	
Goalpara	29.22	742.2	29.60	751.9	82.5	27.9	78	E	0.6	0.3			8			0	0	D. clouds	
Chittagong	29.55	750.5	29.64	752.7	84.7	29.3	91	Calm	2.5	1.1			10			0	0	Gloomy	
Sibsagar	29.32	744.7	29.65	753.1	85.6	29.8	85	SW	2.7	1.2			8	W	W	0.03	0.8	D. clouds	
Jubbulpore	28.19	714.9	29.54	750.4	78.0	25.6	95	S	2.2	1.0			10		W	0.32	8.1	Drizzling	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	BAROMETER. Corrected or instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
												Upper	Lower	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Udine	29.57	751.1	29.97	761.1	86 0	30.0	51	SW	1.8	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.44	749.7	29.93	760.2	88.0	31.1	51	SW	.....	.....	2	.....	3	NW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.84	757.9	29.95	760.6	86.0	30.0	52	SW	1.8	0.8	.....	.....	1	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.08	738.7	29.95	760.8	84 7	29.3	49	S	1.8	0.8	.....	.....	4	SE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.52	757.3	30.00	762.0	79.2	26.2	69	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.12	714.1	29.94	760.5	81.5	27.5	56	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.5	29.95	760.7	80.4	26.9	75	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.78	755.9	30.01	762.1	86.0	30.0	39	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.90	759.4	29.98	761.5	77.7	25.4	74	W	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.6	29.96	760.9	88.2	31 2	32	W	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.68	753.8	29.92	760.0	85 8	29.9	36	NNE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.08	738.5	29.91	759.8	91.0	32.8	58	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.3	30.00	762.0	84 4	29 1	62	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	29.99	761.8	81.0	27.2	63	E	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.8	29.95	760.6	84.9	29.4	67	SE	2.0	1.1	.....	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	747.9	30.00	762.0	85.8	29.9	65	WSW	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 378.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,834 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.86	758.4	78.9	26.1	90	NE	7.3	3.3	.....	.....	5ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29 90	759 4	75.6	24.2	88	WSW	0 7	0.3	.....	1c	.....	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29 71	754.6	29.77	756.1	79.3	26 3	90	N	14.1	6.3	.....	.....	10ck	.....	S	0.050	1.27	Cloudy	The Staff.
Wakayama	29.76	755.9	29.81	757.2	80.4	26.9	76	NE	0.6	0.3	.....	.....	1ck;8	NW	.....	0.005	0.13	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	635.9	30.04	763.1	57.6	14.2	76	Calm	.....	.....	0	.....	5	.....	NE	0.08	2.0	½ cloudy	Prof. L. Perez.
Leon	24.42	620.3	30.06	763.5	61.0	16.1	84	NW	.....	.....	2	1c	0	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.05	763.2	55.9	13.3	77	NW	2.7	1.2	.....	.....	10k	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	69.8	16.0	81	N	.....	.....	1	0	2s	.....	.....	0	0	Fine	M. V. de Leon, M. E
Tlacotalpam	29.83	757.6	29.84	757.9	77.4	25.2	91	SE	.....	.....	1	5	4	N	NE	0	0	Threatening	Prof. M. M. Chazaro.
San Luis Potosi	24.19	614.3	30.09	764.3	62.1	16.7	76	E	.....	.....	1	1	1	W	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.51	571.8	30.04	762.9	58.3	14.6	81	Calm	.....	.....	0	2cs	0	Calm	.....	0	0	Clear	A. Nuñez.
Puebla (Catholic Institute)	23.40	594.3	30.12	765.0	55.4	13.0	84	NW	0.2	0 1	.....	.....	0ck	.....	NE	0.69	17.5	Very cloudy	Prof. P. Spina.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Bandt, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
Mazatlan	29.61	752.1	29.90	759.4	78 1	25.6	91	NE	.....	.....	2	1cs	8n	Calm	NW	0	0	Cloudy	I. Guerrero, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,285.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,113.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised and the clouds at Puebla for which station the cirrus has been transferred to the upper cloud column: the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.13	765.3	30.13	765.3	63.0	17.2	.....	WSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	29.96	761.0	30.02	762.4	60.8	16.0	.....	SW	.....	.....	4	.....	.....	.....	.....	0.003	0.1	.....	
Helder	30.02	762.5	30.02	762.5	60.1	15.6	.....	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.09	764.3	30.09	764.3	61.5	16.4	63	WSW	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Utrecht	30.04	764.3	30.09	764.2	64.6	18.1	50	WSW	.....	.....	5	.....	2	.....	.....	0.004	0.1	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.60	754.1	29.74	755.5	57.2	14.0	63	SSE	1.1	0.5	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.80	756.9	29.84	757.9	53.2	11.8	64	NNW	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.63	752.6	29.77	756.2	63.4	17.2	54	S	7	3	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.72	754.8	29.79	756.9	50.7	10.4	86	NW	7	3	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.04	763.0	30.23	767.8	69.8	20.9	58	ENE	10.5	4.7	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.0	29.93	760.3	90.7	32.6	22	SSW	3.1	1.4	.....	.....	9	SSW	.....	0	0	.....	Dr. A.M.R. dos Santos.
Funchal (Madeira)	29.94	760.4	30.02	762.6	76.1	24.5	68	SW	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.66	753.3	30.00	762.1	76.6	24.8	58	SSE	13.7	6.1	.....	.....	4	S	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.10	764.6	30.19	766.8	73.8	23.2	58	NNE	17.4	7.8	.....	.....	5	.....	.....	0.079	2.0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira				J.C. M. Cabrate, 1st Lt
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. N. 14° 02', W. 12° 00'		ESE	1	SW	D. clouds. ½ hr's rain-fall.]	H. de C. C. e Athayde.
Rio Duro						J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd I.		W	3	6	W	3	W	D. clouds.	A. A. A. Loureiro.
Sá da Bandeira						F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello						H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes. Macao, China		SSW	3	10	SSW	1	Overcast, 6 hr's rain-fall.]	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.68	753.9	30.10	764.4	65.5	18.6	85	Calm	0	0	.....	.....	1ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.67	753.6	30.08	763.9	65.5	18.7	52	WSW	7	3	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.66	753.2	29.89	759.1	63.7	17.6	73	WSW	13	6	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.72	754.9	29.74	755.3	61.7	16.5	76	WNW	18	8	.....	.....	8ks;n 2k;cks;	ckn]	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.35	745.6	29.90	760.9	78.3	25.7	73	NNE	4	2	.....	.....	3cs	.....	.....	.....	.....	Hazy.	Physical Cabinet.
Nikolaiev	30.01	762.2	30.08	764.0	69.8	32.1	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	30.07	763.6	30.08	764.1	79.7	26.5	90	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.40	746.8	29.93	760.2	65.3	18.5	51	N	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.87	758.1	30.04	763.0	68.5	31.4	37	WSW	4	2	.....	.....	6	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	29.56	750.8	29.58	751.3	51.1	10.6	82	NNW	2	1	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.69	728.7	30.03	762.7	87.6	30.9	22	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.12	765.1	30.04	763.0	89.1	31.7	32	SW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.38	746.3	29.84	757.6	70.2	21.2	43	WNW	11	5	.....	.....	6	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.48	748.7	29.74	755.3	64.4	18.0	53	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.48	723.4	29.41	747.0	57.4	14.1	76	WSW	27	12	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.83	757.7	30.06	763.4	60.1	26.7	26	NNW	7	3	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.42	721.9	29.92	760.0	77.0	25	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.49	749.0	29.98	761.5	60.3	15.7	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.85	758.1	30.13	765.3	55.4	13.1	80	SE	7	3	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.81	757.2	29.95	760.8	75.2	24.0	75	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.77	756.2	29.87	758.7	65.5	18.6	89	Calm	0	0	.....	.....	4cs	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.1	29.98	761.6	84.2	29	70	SE	1.8	0.8	.....	.....	6	.....	.....	0	0	D. clouds	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.10	764.4	30.15	765.8	74.1	23.4	70	SE	1.6	0.70	.....	2	7	SE	.....	0.051	1.3	Almost cov'd	Prof. Manuel de Navera
Burgos, Met. Obs'y	27.14	689.4	.....	.....	76.1	24.5	52	NE	0.3	4.18	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.80	706.1	29.55	758.2	96.6	35.9	21	SW	7.4	3.33	.....	0	1	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.81	757.2	29.95	760.8	99.0	37.2	38	ENE	6.0	2.67	.....	3	4	W	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.8	29.96	760.9	70.3	21.3	68	NE	13.7	6.1	.....	2	4	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.87	758.7	29.94	760.3	80.1	26.7	91	SE	7.4	3.3	.....	9ck;cs	2k	NW	SSE	0.579	14.7	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	758.0	29.90	759.4	82.6	28.1	89	SSW	0	0	.....	4ck	3ks	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.2	29.95	760.6	85.1	29.5	62	SSW	5.2	2.3	.....	4	5	NE	S	0	0	...	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.91	759.7	30.00	762.0	78.8	26.0	95	SE	2.2	1.00	.....	4s	3k	SE	SE	0.591	15.00	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.33	744.9	29.37	746.9	60.4	15.8	.....	NE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	29.69	754.0	29.74	755.3	63.7	17.6	78	NW	.....	.....	2	.....	10	.....	.....	0.807	20.5	Raining	
Hernosand	29.70	754.4	29.75	755.7	57.0	14.2	87	NNW	.....	.....	2	.....	9	.....	.....	0.118	3.0	.....	
Stockholm	29.68	753.9	29.84	758.4	64.4	18.0	62	WNW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	29.85	758.1	29.91	759.6	61.2	16.2	63	W	.....	.....	6	.....	8	.....	.....	0.024	0.6	.....	
Sub-Series.																			
Upsala	29.78	756.1	29.82	757.3	65.8	18.8	85	SW	11.6	5.2	.....	.....	1	SW	WSW	0.061	1.54	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.5	29.09	761.7	82.4	28.0	54	WSW	.....	.....	3	.....	3	.....	.....	0.020	0.5	Cloudy.....	The Observatory.
Zurich	28.49	723.6	30.07	763.6	73.0	22.8	77	W	.....	.....	4	.....	6	.....	.....	0.165	4.2	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, 0.0 mm.; Thermometer, +7.7 Cent.; Relative Humidity, —5 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	78.4	25.8	61	ENE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.6	85.8	29.9	.....	.....	.....	.....	.....	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.61	752.1	29.72	755.0	84.9	29.4	60	W	.....	.....	1	.....	1k	.....	.....	0	0	D. clouds.....	Prof. C.V.A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.71	754.6	29.77	756.1	62	16.7	74	N	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	29.64	752.8	29.68	753.9	66	18.8	80	N	10	4.5	.....	.....	10n	.....	N	0.345	8.77	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.85	758.7	62.3	14.6	89	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.82	757.4	65.6	18.6	68	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.87	758.7	57	13.9	87	W	24	10.7	.....	0	0	.....	.....	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	29.76	755.9	29.82	757.4	66.8	19.3	80	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry, Manitoba	29.10	739.1	29.89	759.2	57	13.9	97	W	5	2.2	.....	5k	5n	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.96	735.6	30.04	763.0	63	17.2	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.57	751.1	29.69	754.1	58	13.3	88	NW	6	2.7	.....	.....	10n	.....	N	0.201	6.11	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.66	753.9	30.03	762.7	68.3	20.2	88	SW	.....	.....	1	.....	.....	.....	.....	0	0	Clear.....	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.69	754.1	30.01	762.2	68	20.0	84	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	29.55	750.6	29.68	753.8	61.8	16.6	82	NE	6	2.7	.....	5ck	0	N	.....	0.13	3.0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason
*Montreal, Quebec	29.79	756.7	29.98	761.5	61	16.1	85	W	9	4.0	.....	0	2s	.....	.....	0	0	Clear.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.81	744.5	29.90	761.7	61	16.1	94	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.36	745.7	30.03	762.7	64	17.8	94	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.04	763.0	65	18.3	97	N	5	2.2	.....	0	Fog	.....	.....	0	0	Foggy	M. Payne.
*Quebec, Quebec	29.64	752.8	29.96	760.7	59	15.0	94	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Capt. Arbe, R. N.
*Rockliffe, Ontario	29.52	749.8	29.96	761.0	63	17.2	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	W. H. McIntyre.
St. Andrews, N. B	29.73	755.1	29.78	756.4	62	16.7	74	N	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.62	752.3	29.78	756.4	61	16.1	71	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.00	762.0	68	20.0	88	S	5	2.2	.....	Haze	Sm'e	.....	.....	0	0	Smoky.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.73	731.3	30.04	763.0	60.7	15.9	97	Calm	0	0	.....	0	Fog	.....	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.56	750.8	29.60	751.8	58	14.4	89	N	2	0.9	.....	.....	10n	.....	N	0.07	1.8	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.02	762.5	65	18.3	84	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	Magnetic Observatory.
Windsor, N. S	29.60	754.1	29.71	754.6	68.6	14.7	86	NW	14	6.3	.....	.....	10s;k	.....	.....	0.09	2.3	Cloudy	Prof. John E. Oram.
Woodstock, Ontario	28.99	736.3	30.02	762.5	66.0	18.9	92	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.62	749.8	29.77	756.1	59.0	15.0	88	E	.....	.....	.....	5k	5s	.....	.....	0.08	2.0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 308 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.83	757.7	30.05	763.3	60	15.6	77	N	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Alpena, Michigan	29.35	745.5	29.98	761.5	65	18.3	78	W	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
Atcha, Aleutian Is, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.87	733.3	29.98	761.5	66	18.9	78	NE	8	3.6	.....	8c	0	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	30.03	762.7	30.04	763.0	67	19.4	84	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.87	758.7	30.07	764.8	74	23.3	81	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Baltimore, Maryland	30.01	762.2	30.06	763.5	70	21.1	80	SE	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	30.01	762.2	30.03	762.7	69	20.6	70	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Bismarck, Dakota	28.29	718.6	30.14	765.5	56	13.5	80	W	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.54	724.9	29.82	757.4	70	21.0	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.28	692.9	30.24	768.1	51	10.6	60	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.83	757.7	29.98	761.5	63	17.2	67	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.86	733.0	29.85	758.2	74	23.3	63	N	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Breckenridge, Minnesota	28.98	736.1	29.95	760.7	59	15.0	88	N	9	4.0	.....	8k	0	W	.....	0	0	Cloudy	
Brownsville, Texas	29.80	756.9	29.84	757.9	76	24.4	86	N	8	3.6	.....	10cs	0	Calm	.....	0.59	15.0	Cloudy	
Buffalo, New York	29.33	745.0	30.00	762.0	70	21.1	66	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	70	21.1	32	SW	.....	.....	1	2cs	0	E	.....	0	0	Clear	
Burlington, Vermont	29.74	755.4	30.03	762.7	59	15.0	82	S	3	1.3	.....	10ck	0	N	.....	0	0	Cloudy	
Cairo, Illinois	29.68	753.9	30.03	763.5	72	22.2	80	N	2	0.9	.....	2ck	5s	SE	Calm	0	0	Fair	
Campo, California	27.42	696.5	29.98	761.5	64	12.2	74	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.7	73	22.8	81	NE	9	4.0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Cape Henry, Virginia	30.02	762.5	30.04	763.0	73	22.8	72	S	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	74	23.3	72	NW	10	4.5	.....	8ck	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.02	762.5	30.05	763.3	68	20.1	79	SW	7	3.1	.....	8ck	0	NW	.....	0	0	Cloudy	
Castroville, Texas	29.19	741.4	29.86	758.4	75	23.9	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.96	761.0	30.02	762.5	77	25.0	86	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Charlotte, North Carolina	29.20	741.7	29.99	761.7	72	22.2	76	W	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Chattanooga, Tennessee	29.26	743.2	30.04	763.0	64	17.8	94	Calm	0	0	.....	2cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.31	617.5	30.25	768.3	43	6.1	43	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.36	745.7	30.02	762.5	75	23.9	68	Calm	0	0	.....	5ck	Haze	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.41	747.8	30.07	763.8	69	20.6	85	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cleveland, Ohio	29.35	745.5	30.05	763.3	68	20.0	84	SE	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Coleman City, Texas	28.26	717.8	29.87	758.7	69	20.6	66	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.22	742.2	30.02	762.5	73	22.8	85	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28.17	715.5	29.82	757.4	65	18.3	63	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	29.98	761.5	72	22.2	71	E	2	0.9	.....	0	1ks	.....	Calm	0	0	Clear	
Davenport, Iowa	29.43	747.5	30.05	763.3	69	20.6	90	Calm	0	0	.....	4cs	Haze	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.62	650.7	.....	.....	43	6.1	83	Calm	0	0	.....	0	0	.....	.....	0.12	3.0	Clear	
Decatur, Texas	28.90	734.0	30.02	762.5	80	26.7	87	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.24	742.7	30.01	762.2	69	20.6	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.04	636.0	30.26	768.6	51	10.6	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.17	740.9	30.02	762.5	66	18.9	71	Calm	0	0	.....	0	8s	.....	W	0	0	Cloudy	
Detroit, Michigan	29.37	746.0	30.01	762.2	69	20.6	75	NW	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.57	700.3	29.82	757.4	60	15.6	88	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Dubuque, Iowa	29.36	745.7	30.03	762.7	67	19.4	79	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.23	742.4	29.88	758.9	67	19.4	74	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.29	741.7	29.91	759.7	73	22.8	59	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.73	755.1	29.80	756.9	60	15.6	77	NW	13	5.8	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	26.32	668.8	.....	.....	62	16.7	51	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.34	745.2	30.02	762.5	72	22.2	80	SW	3	1.3	.....	0	Haze	.....	Calm	0	0	Hazy	
Escanaba, Michigan	29.33	745.0	29.96	761.0	70	21.1	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.40	721.2	30.00	762.0	74	23.3	32	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.10	713.7	29.94	760.5	48	8.9	92	W	2	0.9	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Fort Custer	27.03	686.6	.....	.....	.....	.....	.....	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.32	643.1	30.26	769.1	56	13.5	69	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.51	749.5	30.03	762.7	71	21.7	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	69	20.6	56	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.83	732.3	30.07	763.8	66	18.9	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.59	700.8	.....	.....	50	10.0	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.68	753.9	64	17.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.58	733.5	29.97	761.2	63	17.2	72	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.26	717.8	.....	.....	48	8.9	56	W	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	58	14.4	37	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.12	714.2	29.58	751.3	81	27.2	55	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.79	756.7	29.82	757.7	78	25.6	78	NE	20	8.9	.....	5ck	2s	SE	Calm	0	0	Cloudy	
Graham, Texas	28.99	736.3	30.02	762.5	64	17.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.47	748.7	30.03	762.7	62	16.7	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.05	738.0	29.99	761.7	67	19.4	79	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.28	743.7	30.03	762.7	69	20.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.84	757.9	29.87	758.7	77	25.0	77	N	23	10.3	.....	5c	0	W	.....	0	0	Fair	
Jacksboro, Texas	28.94	735.1	30.04	763.0	70	21.1	70	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.95	760.7	77	25.0	91	SE	3	1.3	.....	.....	10s	.....	SE	1.47	37.3	Cloudy	
Keokuk, Iowa	29.40	746.7	29.94	761.7	69	20.6	85	Calm	0	0	.....	5cs	Fog	SE	Calm	0	0	Fair	
Key West, Florida	29.91	759.7	29.94	760.5	82	27.8	83	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Kittyhawk, North Carolina	29.96	761.0	29.99	761.7	72	22.2	80	E	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.07	738.4	30.05	763.3	67.5	19.7	87	E	1	0.4	.....	0	Fog	.....	.....	0	0	Foggy	
La Crosse, Wisconsin	29.26	743.2	29.97	761.2	69	20.6	80	S	1	0.4	.....	2k	0	SW	.....	0	0	Clear	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	64	17.8	39	S	1	0.4	.....	1k	0	N	.....	0	0	Clear	
Laredo, Texas	29.54	750.3	29.85	758.4	79	26.1	62	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.22	742.2	30.04	763.0	66	18.9	74	W	1	0.4	.....	5ck	2s	S	.....	0	0	Cloudy	
Little Rock, Arkansas	29.69	754.1	30.04	763.0	70	21.1	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.55	750.6	29.81	759.2	58.0	14.4	82	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.48	748.8	30.02	762.5	69	20.6	85	N	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.39	746.5	30.04	763.0	74	23.3	81	N	1	0.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Madison, Wisconsin	29.05	737.9	30.00	762.0	69	20.6	85	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.23	742.4	29.89	759.2	74	23.3	63	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.40	721.3	30.11	764.8	68	20.0	65	NW	3	1.3	.....	0	5s	.....	NE	0	0	Fair	
Memphis, Tennessee	29.70	754.4	30.03	762.7	70	21.1	84	NE	3	1.3	.....	5ck	2ks	E	SE	0	0	Fair	
Milwaukee, Wisconsin	29.30	744.2	30.01	762.2	68	20.0	84	W	3	1.3	.....	1ck	0	Calm	.....	0	0	Clear	
Mobile, Alabama	29.84	757.9	29.88	758.9	75	23.9	95	NE	7	3.1	.....	.....	10s	.....	E	0.02	0.5	Cloudy	
Montgomery, Alabama	29.74	755.4	29.96	761.0	73	22.8	81	NE	5	2.2	.....	.....	10ks	.....	E	0.01	0.3	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer's.
Morgantown, West Virginia	29.08	738.6	30.04	763.0	68	20.0	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	28.87	666.3	30.23	767.8	40	4.4	83	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Nashville, Tennessee	29.51	749.5	30.02	762.5	72	22.2	80	Calm	0	0	.....	1cs	8ks;sme	Calm	E;Calm	0	0	Fair.	
New Haven, Connecticut	29.91	759.7	30.02	762.5	65	18.3	78	N	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear.....	
New London, Connecticut	29.95	760.7	30.10	762.0	66	18.9	69	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
New Orleans, Louisiana	29.76	755.9	29.82	757.4	77	25.0	82	NE	12	5.4	.....	.....	10n	.....	NE	0.02	0.5	Light rain...	
Newport, Rhode Island	29.95	76 .7	30.10	762.0	62.1	16.9	75	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.86	758.4	30.04	763.0	67	19.4	74	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	29.98	761.5	30.04	763.0	73	22.8	81	SE	3	1.3	.....	Haze	Haze	.....	.....	0	0	Hazy	
Zorth Platte, Nebraska	27.81	693.7	29 92	760.0	47	8.3	89	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29 93	760.2	29.97	761.2	51.1	10.5	96	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.94	735.1	30.00	762.0	67	19.4	79	W	2	0.9	.....	8c	0	S	.....	0	0	Fair.....	
Oswego, New York	29.74	755.4	30.00	763.5	63	17.2	83	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Pembina, Dakota	29.03	737.3	29.84	757.9	55	12.8	93	W	8	3.6	.....	0	6s	.....	W	0	0	Fair.....	
Philadelphia, Pa	29.99	761.7	30.04	763.0	66	18.9	69	N	8	3 6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.70	729.0	30.33	772.9	72	22.2	34	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	18.07	459 0	30.28	769.1	30	— 1.1	47	W	11	4.9	.....	0	Haze	.....	.....	0	0	Hazy.....	
Pilot Point, Texas	29 12	739.6	29 89	759.2	82	27.8	74	SE	17	7.6	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	24.20	614.7	29 98	761.5	55	12.8	17	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.27	743.4	30.05	763.3	67	19.4	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Huron, Michigan	29.88	746.2	30.02	762.5	68	20 0	84	N	1	0.4	.....	.....	Sm'c	.....	.....	0	0	Smoky.....	
Portland, Maine	29.89	759.2	29.94	760.5	66	18.9	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Oregon	29.90	759.4	29 97	761.2	56.7	18.7	96	S	1	0.4	.....	0	Fog	.....	SE	0	0	Clear.....	
Prescott, Arizona	24.86	631.4	30.22	767.6	52	11.1	54	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	29.91	759.7	29.93	760.2	75	23.9	90	E	10	4.5	.....	8cr	8s	Calm	E	2.12	53.8	Cloudy.....	
Red Bluff, California	29.50	749.3	29.84	757.9	66	18.9	36	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	78	22.8	90	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear.....	
Rochester, New York	29.44	747.8	30.04	763.0	65	18.3	58	SW	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear.....	
Roseburg, Oregon	29 42	747.3	29.98	761.5	54	12.2	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sacramento, California	29.74	755.4	29.82	757.4	67	19.4	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.50	749.3	30.06	763.5	69	20.6	85	Calm	0	0	.....	... ...	10ks	.....	Calm	0	0	Cloudy.....	
St. Marks, Florida	29.88	758.9	29.89	759.2	74	23.3	100	N	2	0.9	.....	.....	10n	.....	Calm	1.71	43.4	Light rain...	
St. Paul, Minnesota	29.15	740.4	29.95	760.7	63	17.2	83	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.81	655.6	30.14	765.5	53	11.7	36	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.27	743.4	29.83	757.7	75	23.9	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.81	757.2	29.88	758.9	62	16.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Sandusky, Ohio	29.40	746.7	30.04	763.0	72	22.2	85	SW	3	1.3	.....	Haze	Sm'c	Calm	Calm	0	0	Hazy.....	
Sandy Hook, New Jersey	30.10	762.0	30.04	763.0	66	18.9	74	NE	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
San Francisco, California	29.76	755.9	29 82	757.4	66	18.9	64	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.49	596.6	30.03	762.7	59	15.0	48	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.92	760.0	30.01	762.2	77	25.0	91	NE	6	2.7	.....	5c	2s	W	SE	0.10	2.5	Fair	
Shreveport, Louisiana	29.74	755.4	29.96	761.0	72	22.2	80	N	5	2.2	.....	2k	0	N	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.02	762.5	30.06	763.5	72	22.2	95	NW	4	1.8	.....	Haze	Haze	Ca'm	Calm	0	0	Hazy	
Socorro, New Mexico	25.56	649.2	29.92	752.3	59	15.0	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Ill	29.40	746.7	30.05	763 3	69	20.6	80	Calm	0	0	.....	5c	0	SE	.....	0	0	Fair	
Springfield, Massachusetts	29.96	760.4	30.03	762.7	60	15.6	82	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	27 07	687.6	30.07	763.8	60	15.0	20	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.95	760.7	30.00	762.0	65	18.3	84	SW	15	6.7	.....	5k	Sm'c	SW	.....	0	0	Fair	
Toledo, Ohio,	29.37	746.0	30.03	762.7	71	21.7	75	W	2	0.9	.....	0	Sm'c	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.50	698.5	30.06	763.5	70	20.7	43	S	3	1.3	.....	5k	0	Calm	.....	0	0	Fair.....	
Umatilla, Oregon	29.58	751.3	30.06	763.5	61 0	16.1	48	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.04	737.6	29.83	757.7	69	20.6	61	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi	29.69	754.1	29.94	760.5	72	22.2	76	NE	4	1.8	.....	10cs	0	S	.....	0	0	Cloudy.....	
Virginia City, Montana	24.48	621.8	29.9 .	761.0	43	6.1	43	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.48	748.8	29.83	757.7	64	17.8	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.93	760.2	30.04	763.0	70	21.1	80	NW	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.96	761 0	30.04	763.0	73	22.8	85	NW	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy...	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	50	10.0	39	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.95	760.7	29.98	761.5	63	17.2	78	NW	10	4.5	.....	Haze	0	.....	.....	0	0	Clear.....	
Yankton, Dakota	28.84	732 5	30.12	765.0	60	15.6	76	W	1	0.4	... ...	2c	0	W	.....	0	0	Fair.....	
Yuma, Arizona	29.05	753.1	29.81	757.2	71	21.7	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.87	758.7	29.92	760.0	81	27.2	91	Calm	0	0	.....	8c	2n	Calm	SE	0.57	14.5	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.18	766.6	30.19	766.8	79	26.1	57	E	0	0	.....	2c	2cs	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.27	641.8	.....	.....	65.0	18.3	73	Calm	.....	.....	0	2c;cs	0	.....	.....	0.08	2.0	.....	Thomas Herran.
Navassa, W. I	29.91	759.7	29.99	761.7	84	28.9	.....	E	.....	.....	.....	5k	... ...	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	83	28.3	71	NE	.....	.....	2	5k	5ks	E	.....	0	0	.....	C. J. Hering.
Santiago de Cuba, W. I	29.97	761.2	29.99	761.7	78	25.6	82	Calm	0	0	.....	8c	1k	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.15	765.8	30.2 .	767.1	43.6	6.4	96	E	10	4.5	.....	1c	2s	S	NE	0	0	Fair.....	I. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometers are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Campo, 2,200 (?) ft., or 762 (?) m.; Cheyenne, 6,047.3 ft., or 1,843.2 m.; Colman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Fort Custer, (?;) Fort Davis, 5,203 (?) or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,665 ft., or 1,423 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100, 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,450 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.850 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 67.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.29 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in., or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm. Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 52.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.46 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. —10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.00‡	762.0‡	.....	.....	78	25.6	91	NE	15	6.7	.....	.....	10	.....	NE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N. H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.79‡	756.7‡	.....	.....	80	26.7	67	SW	.....	.....	4	c	4k	.....	SW	0	0	.....	.....	Fair	
Adams.																					
Mare I'd., Navy Yard, Cal.	29.85‡	758.2‡	.....	.....	66	18.9	94	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska.																					
N. 21° 25′, W. 105° 27′	29.82‡	757.4‡	.....	.....	82	27.8	83	ESE	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	D. clouds	
Alliance.																					
Spit Head, Eng.	30.13‡	765.3‡	.....	.....	62	16.7	61	NW	.....	.....	6	.....	8	.....	NW	.....	.....	.....	.....	D. clouds	
Ashuelot.																					
Yokohama, Japan	29.77‡	756.1‡	.....	.....	80	26.7	91	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Mod'ate	.....	Cloudy	
Colorado.																					
New York, N. Y.	29.99‡	761.7‡	.....	.....	67	19.4	69	Calm	0	0	....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constellation.																					
Annapolis, Md.	30.03‡	762.7‡	.....	.....	72.3	22.4	80	ENE	.....	.....	1	.....	6?	.....	ENE	0	0	.....	.....	Clear?	
Constitution.																					
Navy Yard, Brooklyn, N.Y.	30.01‡	763.5‡	.....	.....	68	20.0	74	N	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise.																					
Cowes, England	30.08‡	763.5‡	.....	.....	64	17.8	94	NW	.....	.....	2	.....	6?	.....	NNW	.....	.....	Mod'ate	.....	Clear?	
Essex.																					
Bahea, Brazil	30.20‡	767.1‡	.....	.....	74	23.3	81	SE	.....	.....	4	.....	8	.....	.....	.....	.....	Mod'ate	S	Cloudy	
Franklin.																					
Norfolk, Va.	30.05‡	763.3‡	.....	.....	72	22.2	86	SSE	.....	.....	.....	.....	2	.....	SSE	0	0	.....	.....	Clear	
Hartford																					
Rio de Janeiro, Brazil	30.22‡	767.6‡	.....	.....	73	22.8	72	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Independence.																					
Mare I'd. Navy Yard, Cal.	29.87‡	758.7‡	.....	.....	70	21.1	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Kearsarge.																					
Ship Harbor, Nova Scotia.	29.63‡	752.6‡	.....	.....	58	14.4	88	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Lackawana.																					
Apia, Samoa Is.	29.91‡	759.7‡	.....	.....	77	25.0	82	ESE	.....	.....	1	.....	8	.....	ESE	.....	.....	Smooth	.....	Cloudy	
Michigan.																					
Sheboygan, Wis.	29.95‡	760.7‡	.....	.....	67	19.4	79	WSW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....	Fair	
Monocacy.																					
Cheefoo, China	29.95‡	760.7‡	.....	.....	77	25.0	77	Calm	.....	.....	0	.....	6?	.....	.....	.....	.....	.....	.....	Cloudy?	
Monongahela.																					
Yokohama, Japan	29.75‡	756.4‡	.....	.....	82	27.8	71	SW	.....	.....	3	.....	ck	.....	.....	0	0	.....	.....	D. clouds	
New Hampshire.																					
Port Royal, S. C.	30.01‡	762.2‡	.....	.....	76	24.4	91	ENE	10	4.5	.....	.....	8	.....	NW	0.5	13.	.....	.....	Cloudy	
Onward.																					
Callao, Peru	29.99‡	761.7‡	.....	.....	61	16.1	94	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos.																					
Chefoo, China	29.96‡	761.0‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Passaic.																					
Washington, D. C.	30.01‡	762.2‡	.....	.....	74	23.3	81	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola.																					
Iquique, Peru	30.04‡	763.0‡	.....	.....	66	18.9	68	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy	
Portsmouth.																					
N. 43° 15′, W. 66° 17′	29.84‡	756.9‡	.....	.....	53	11.7	86	NW	.....	.....	4	.....	2	.....	Calm	.....	.....	Mod'ate	NW	Clear	
Powhatan.																					
New York City, N. Y.	30.03‡	762.7‡	.....	.....	66	18.9	79	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug.																					
Venice, Italy	29.95‡	760.7‡	.....	.....	84	28.9	64	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger.																					
Yokohama, Japan	29.77‡	756.1‡	.....	.....	82	27.8	91	SSW	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond.																					
Yokohama, Japan	29.76‡	755.9‡	.....	.....	82	27.8	87	NW	.....	.....	4	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Rio Bravo.																					
Brownsville, Texas	29.84‡	757.9‡	.....	.....	76	24.4	95	NW	.....	.....	2	.....	10	.....	Calm	0.23	5.8	.....	.....	Cloudy	
Santee.																					
Annapolis, Md.	30.05‡	763.3‡	.....	.....	71	21.7	85	NE	.....	.....	1	.....	10	.....	W	0	0	.....	.....	Hazy	
Saratoga.																					
New London, Conn.	30.01‡	762.2‡	.....	.....	63	17.2	100	N	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Blue sky	
St. Louis.																					
League Island, Pa	30.06‡	763.5‡	.....	.....	70	21.1	85	NW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton.																					
N. 49° 17′, W. 5° 26′	30.22‡	767.6‡	.....	.....	58	14.4	70	NNW	.....	.....	2–3	.....	2	.....	N;W	0	0	Smooth	.....	Fair	
Tuscarora.																					
Mare Isl. Navy Yard, Cal.	29.85‡	758.2‡	.....	.....	70	21.1	75	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Vandalia.																					
N. 28° 26′, W 89° 52′	29.81‡	757.2‡	.....	.....	83	28.3	67	SSE	.....	.....	2	.....	2	.....	SE	.....	.....	Mod'ate	E	Clear	
Wabash.																					
Boston, Mass.	29.98‡	761.5‡	.....	.....	61	16.1	77	NW	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett.																					
Portsmouth, N. H.	29.96‡	61.0‡	.....	.....	63	17.2	78	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wyoming.																					
Constantinople, Turkey	29.93‡	760.2‡	.....	.....	76	24.4	71	NNE	.....	.....	3–5	.....	2	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity for noon, local time, instead of 7.35 A. M., Washington time. The elevation of Naval Hospital at Yokahama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally §The barometer readings of the Ranger appear to be unreliable.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.
Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			
S. S. Colima, N. 8° 36', W. 83° 58'		29.90‡	761.0‡	80	26.7	96	NNW			2		8		WNW	0.17 in. or 4.3 mm	Small	WSW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehurv.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connors.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Port Jackson, N. S. W., Australia		30.34‡	770.6‡				NE			2				NE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gladdell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.
Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.75‡	755.6‡	80	26.7	96	SE			4		7n			Heavy			Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson. N. 38° 10', W. 160° 20'		30.44‡	773.2‡	70	21.1		SSW			2		clr		NE	0	Smooth	SE	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.
Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 44', W. 10° 20'		30.28‡	769.1‡	59	15.0	82	NW			4		2		NW		Smooth	NW	Fair	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 32', W. 8° 05'		30.20‡	767.1‡				NW			4		10		WNW		4	NW	Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana. Delaware river		30.06‡	764.0‡	65	18.3	78	WSW			2		2		NW				Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Brunswick, Ga		29.96‡	761.0‡	79	26.1	86	ENE	7	8.1			10ks		E	0.12 in or 3.0 mm			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 32° 13', W. 68° 18'		29.94‡	760.5‡				NNE			4		8		NE	Blank	Smooth	N	Squally	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
§Iron Cross, N. 17° 20', W. 47° 12'		30.04‡	763 0‡	81	27.2	85	NE			5		5				4	NNE	D. clouds	Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch't A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

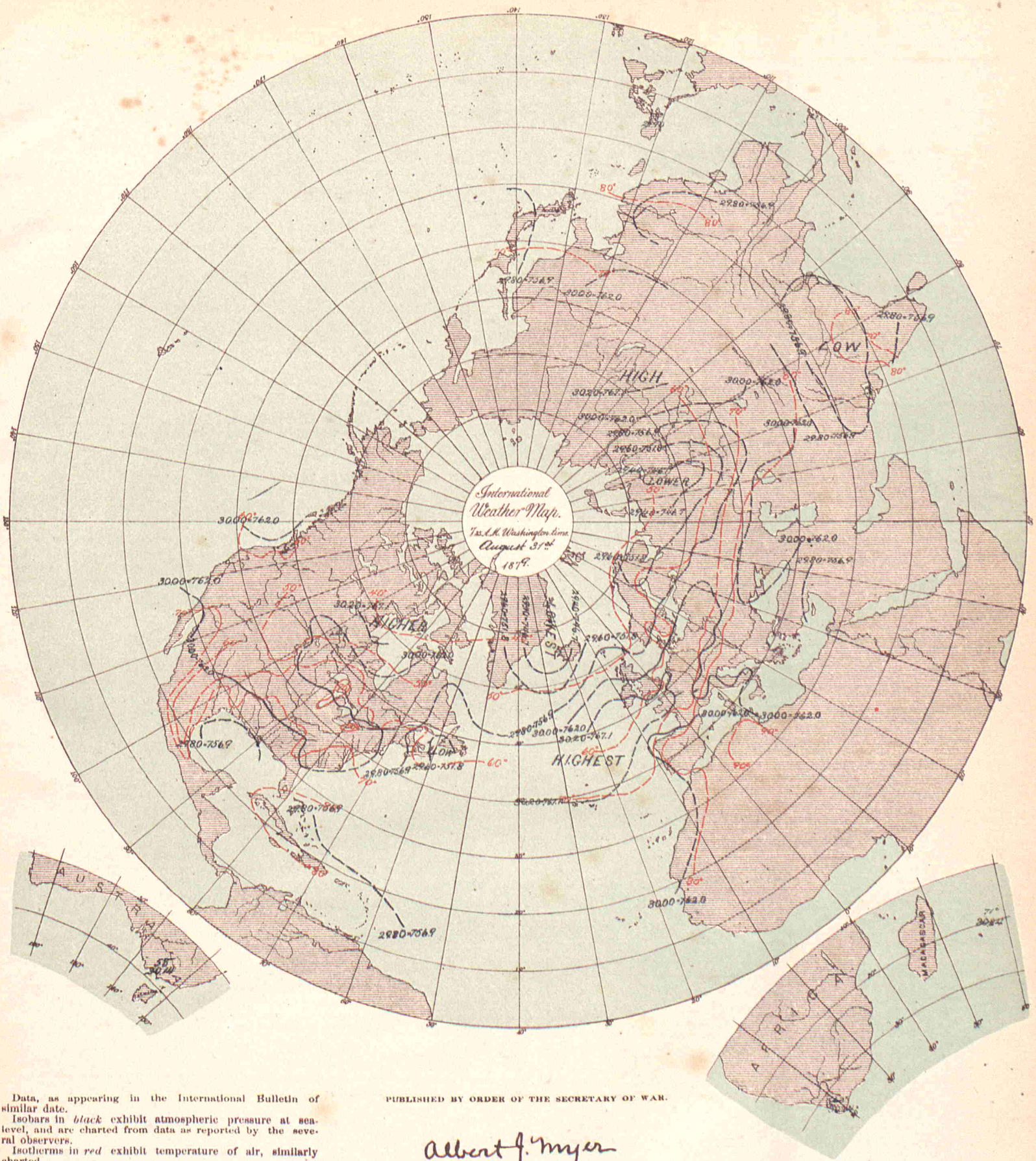
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given, D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

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Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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